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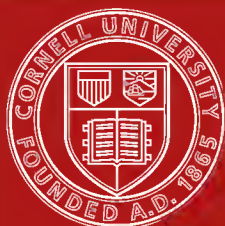
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Scientific fact and metaphysical reality



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SCIENTIFIC FACT
AND
METAPHYSICAL REALITY



SCIENTIFIC FACT
AND
METAPHYSICAL REALITY

BY
ROBERT BRANDON ARNOLD

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PREFACE

THE main object of this work may be described as the furtherance of efforts to bring the developments of science into touch with the point of view of metaphysical thinking. It seems that the present divergence of opinion as to the nature of the universe as a whole is partly due to the very fact that the development of scientific specialism has greatly increased the number of intellectual men. But this tends to produce a separation between those who have the most accurate knowledge of certain types of facts and others who from their training are especially competent to interpret the facts in their relative importance, and from a point of view adequate to their nature as a whole. For we may define metaphysics as the theory of existence as a whole, as contrasted with the scientific investigations which deal with the world in detail. Thus a full knowledge of the functions of all the separate organs of the body would give us no hint as to the direction of its next movement as a whole, which we vaguely, in popular language, describe as controlled by "mind." The present work deliberately introduces *concrete* details and illustrations derived from science, but no fact is considered except with reference to its bearing on some metaphysical problem. We attempt to be scientific in letter and detail, but metaphysical in spirit and interpretation.

There is, no doubt, a vague idea afloat that the metaphysical idealist "shirks the facts of science." This criticism is not really justified in that form, yet the mistaken hint may be of value in a different shape; hence we have devoted the first chapter to this point. We fully admit that the bright outlook, which is compatible with the idealist view of the universe, must be terribly darkened by a real understanding of the principles underlying biological science in particular. Metaphysicians do not always display such a comprehension, or it often has no proximate connection with their avowed purposes. The situation is perhaps only aggravated by the absence of any direct intellectual collision. The relative strength of alien trends of thought and strains of feeling cannot be thus measured, yet it seems to be no one's business to attempt an amalgamation in order to find out which would predominate in such a fusion. In consequence they have little influence upon each other: at best their representatives politely refer to the necessity of "different aspects of life," a necessity which may, indeed, be valid, but is hardly a reason for essaying no modification of a tacit antagonism. After all, there have been some evil aspects of existence which have now vanished from the world. In ordinary life may be found many parallels. When the Church is emptied the popular magazines naturally take their turn, the ruling idea of which at present is exactly expressed in the following quotation, which is quite gratuitously introduced in the middle of an ordinary tale. "It may all be reduced to a simple formula: the instinct to acquire wealth is natural, the ability to do so is genius (Heaven save the mark!), and the accomplishment of it is happiness." In most contributions it is tacitly inculcated by our

“hustlers” that we should worship the strong and the successful, who are frequently, *mutato nomine*, the comparatively coarse-grained. We are not making the unpractical suggestion that men should not strive to make money. But we protest vehemently against the impudence of the open assertion that this is to provide our ideal and criterion. One might as well judge a man by his capacity for sound digestion, merely because some share of it, as of money, is obviously an essential condition of the higher life. It seems to us that the relation of metaphysics to science is not altogether dissimilar to this, though, of course, there is nothing inferior in the spirit of the latter. Indeed, nothing can be nobler than the characters of those who, without any hope of a happier existence, pursue their ideals to the end. But we wish to bring science and metaphysical idealism into closer connection, not that one “aspect” may abolish the other, but in order that we may become more clear as to which has the intellectual right to pervade and transmute the ultimate significance of the two.

A single example of our method may be quoted. We should start from the biological view that “mind” results mainly from physical structure and environment, and is no independent ego. In Adamson’s metaphysical language such a conception is really confirmed as follows: — “The unity of consciousness does not *first* organise experience, but itself is only possible in and through the knowledge of objective fact.” We wish to work out, if practicable, the possibilities of the somewhat isolated fundamental conceptions of the various sciences with reference to the general metaphysical standpoint mainly derived from Plato, Kant, and Hegel. But it is clear that

such an attempt is beset with special difficulties. Science and metaphysics have grown up in complete independence, or even antagonism, yet any one who can really appreciate the love of truth, must sympathise with any effort to formulate a simultaneous use of these two great departments of human intellectual activity. It can hardly be expected that the combination of such discrepant elements should make easy reading. So many qualifications of each statement are needed, if we bear in mind both the scientific and metaphysical aspects of problems, that we can hardly avoid overweighted sentences. Those who are accustomed to expect the lucid and eloquent periods of Herbert Spencer should inquire what is said of his reasoning and analogies by the metaphysicians in the intellectual centres. Summaries are attached to the sections in this work, for we do not wish to omit any means of making our inquiry more lucid. It may also be rendered unfamiliar by the absence of any considerable recognised terminology and methodology built up by previous writers. We have, under such circumstances, a right to expect from an earnest critic that he should discuss the errors of fact, method, and reasoning rather than the inevitable stiffness of style and expression.

We also wish to refer to our attitude towards the anti-Absolutist tendencies among pure metaphysicians, which seem to be gaining considerable strength. It is stated in *Personal Idealism* that it is not intended to offer a direct refutation of Absolutism, but rather an independent construction. The purely metaphysical question at issue is not the chief goal of the present work, and we confess that the Absolutist or monistic views, so far as we are employing them provisionally,

do not seem to us to be affected by these recent criticisms. It is objected therein that human experience is judged from a vague and impossible standpoint, and that the volitional and personal aspect of life is not sufficiently appreciated. We find also that statement, so notoriously dangerous in metaphysics, that Absolutism is not adequate to the facts. The two latter points, however, receive special attention, particularly in the tenth chapter, in which the significance of our realisation of our own personalities becomes the pivot of the discussion. The vagueness of the Absolute is of course well known. But it seems to us that we can admit the logical necessity of monism, while avoiding, for the purposes of the present inquiry, a metaphysical discussion as to the value of "human experience" and the nature of its errors in a cosmic perspective. But we hope that from our earlier chapters, full of scientific details, some light may be shed indirectly on this difficulty. Therein we have attempted to work out the possibilities to which a reference was made in Mr. Balfour's late Presidential address to the British Association at Cambridge: "Eyes, ears, and all the mechanism of perception have been evolved in us by the slow operation of Natural Selection, working only through immediate utility. Our organs of sense-perception, upon which are based all intellectual powers, were not given to us for purposes of research; nor was it to aid us in meting out the heavens or dividing the atom that our powers of calculation and analysis were evolved from the rudimentary instincts of the animal."

The Humanists urge that the unknown conditions, which for the Absolutist invalidate all experience in some degree, are truly irrelevant to many questions.

But it seems to us that metaphysical problems are seldom among such questions, and that in the examples quoted by the Humanists the answers are fully valid, just because they do not seriously claim application to the intrinsic nature of the universe as a whole. Again, Mr. Schiller would not be prepared to say that the universe is *entirely* "plastic," or as we make it ourselves. The Humanists, however, claim that their movement is intrinsically differentiated by reason of its novelty of *method*, which they assert to be psychologically justified to the exclusion of all others. Such application of a science (psychology), if impartially introduced, would be entirely in our own spirit, but the Humanists do not seem to us at present to have given their views a sufficiently definite shape, or to have clearly repudiated certain presentations of their doctrine, which we should regard as undoubtedly mistaken and tending to chaos. As a matter of psychology also, we doubt whether the original relation of will to idea is as yet satisfactorily elucidated. We have, however, said sufficient on this subject, since it is not in the main line of our inquiry, and we await its further development. It will be found that some work in *Personal Idealism* is utilised for our own purposes.

The eighth and eleventh chapters deal with subjects which are treated largely on grounds of probability, but in the last a final statement is given of the view taken of our psychophysical organisms, since it is desirable to consider mind not only as it is, but in reference to certain powers which it possibly exhibits some indications of acquiring. In these chapters, especially the last, which are of a less technical character, there are also introduced at intervals some

reflections on the bearing of the metaphysical views upon subjects of more popular interest.

We must express our thanks to various scientific friends for suggestions of facts relevant to the inquiry, and especially to Mr. Charles Singer for his help in the discussion of biological problems. It may be thought that it is not possible for one man, however assisted, to utilise and select from the vast range of scientific knowledge for such a purpose as ours. This criticism, whether justifiable or otherwise, will be considered in detail in the first chapter.

WINCHESTER, *August* 1904.

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CHAPTER I

SCIENCE AND METAPHYSICS

THERE are, perhaps, at the beginning of the twentieth century, more cogent reasons for a general introduction to a work on metaphysics than at any other period in the history of thought. In an age when there are two distinct methods of attempting to solve the problems of the universe, even from the purely intellectual standpoint, it is necessary, at the beginning of a work on metaphysics, to define clearly the method which will be employed, even though this method was latest in becoming apparent to the writer. And, indeed, the evolution of all trends of thought has usually brought into view their principles only at the last, so that the appearance in consciousness of the *method*, which had been implicit throughout, might well be taken as a sign that it was no longer necessary to delay setting forth the results, which had been attained. The metaphysician has always encountered this difficulty—that it is peculiarly hard for him to know when he has reached a break in the processes of his thought which is real enough to serve as a halting-place. Men of science undertake the investigation of limited problems, and though it frequently occurs that new possibilities arise unexpectedly, yet it is usually practicable to draw a line, and say that this series of experiments, as such, is concluded. But, as Mr. Bradley has shown, the fact that metaphysical conceptions can hardly lack some degree

Contrast of
permanent
elements in
science and
metaphysics.

of truth, implies that they are also capable of almost indefinite development; and this characteristic is connected with that sharp contrast between science and metaphysics, the nature of which must be considered, if our method is not to appear confused. It is plain that the contrast is not a real one in all senses, for even the term Evolution implies this continuity of development of conception. The element of stability, which is equally necessary, is in scientific matters provided by observations and statistics concerned with the data of the senses. These appeal to the imagination, and hence produce a sense of reality, on which the mind eagerly seizes; whereas stability in metaphysics is given by those conceptions, such as matter and time, without which neither the investigations of the man of science nor the relations of ordinary life could be presented as intelligible. Since, however, they are *conceptions*, and, in consequence, do not readily appeal to the imagination, and, moreover, it is admitted in metaphysics that they fall short of ultimate reality, they do not, however accurately defined, produce the same impression of stability, even though their necessity in some form be logically admitted.

Metaphysics
and verification
by reference to
"fact."

Metaphysics is simply a name for an unusually severe effort to think, that is, to bring our various disconnected conceptions into relation with each other, and it may well be that if it had not received a special title before the advent of science, metaphysics would never have been subjected to many of the series of attacks which have been directed against it. For it is obvious that thinking is sometimes a successful operation, and if it really is not successful under the metaphysical guise, there must be some special reason for the failure. Men of science have often said that the weak point of metaphysics is its inability to *correct* its results by continual reference to sensuous fact. The answer that metaphysics analyses the general conception of sensuous fact, and finds it self-contradictory, if

regarded as independent reality, only leads the scientifically-minded to Herbert Spencer's Unknowable. Yet it is known that fact, as merely perceived, is useless, and we therefore cannot avoid connecting theories. Men of science, however, are well aware how continually their own thinking is proved inadequate when reference is made to sensuous fact, and they do not believe that any one is likely to escape this liability to error. This is the really serious accusation against metaphysics, but though it is so obvious, it is often expressed in an unjust manner by the more plain-spoken men of science. Professor Karl Pearson would vaguely dismiss metaphysics as "built" upon air or quicksands, but it would be much truer to say that it is rather in danger of evaporating into air than that it is built upon it. Plainly, it is "built" upon the ordinary conceptions, fact, matter, mind, space, etc., and always begins by asking what precisely we mean by these terms. Similarly geometry begins with its necessary definitions. Those who speak of the "thin grey abstractions" of metaphysics are more just, for they imply that its results may be logically true, but in certain connections are unrealisable, though by no means negative. It is plainly absurd to say that an inquiry, which begins by the investigation of the exact meaning of "fact," does not take account of facts. The recent death of Herbert Spencer, which all must regret, has brought to the fore this unintelligent criticism. It arises entirely from incomplete acquaintance with a subject which needs an intensity of application, unwelcome to those accustomed to range for mere intellectual *pleasure* among the novelties of science. The main value of the analytical nature of "metaphysical" thinking lies in its revelation of the vagueness of the ordinary terms, fact, time, matter, and the like; its peculiar effect is to make us realise exactly our own intellectual position—no easy task, as Socrates first showed.

Metaphysics proceeds from its analysis of matter

through various stages to the conception of the Absolute, a conception, resulting, be it understood, entirely from the analysis and comparison of mind and matter, no other existence being assumed. The conception of the Absolute (which has no essential connection with that of Deity) is described under this name, in order to express the exact meaning of the metaphysical argument, which leads to the idea of a necessary existence, which is logically *all-inclusive*, the term Absolute having no reference to absolute power or any other popular attribute of Deity. We shall be concerned later with the discussion of the relation of the popular conception of Deity to that of the Absolute. There is, it is true, an increasing difficulty in realising all the possibilities, as the thinking deals more with conceptions, and becomes further removed from the power to refer directly and continually to separate sensuous facts. Conceptual incompleteness, however, can only lead to a limited degree of error if the original conceptions have a firm foundation. But these separate sensuous facts, though as separate they are fully admitted not to be ultimately real for metaphysics, are also allowed to have their degree of reality, the meaning of which will presently be defined. Hence it is here contended, that metaphysics should avail itself of these scientific facts as long as possible; afterwards we must employ ordinary analysis and comparison from the different standpoints of various thinkers. In this way upon certain propositions all become at length agreed. Thus the universal inter-relation of Spinoza's monism quickly found an illustration in the gravitational theory of Newton, though of course it is recognised that the actual *form* of such special applications cannot be predicted, save by reference to the refined methods of science for their formulation.

But the well-known metaphysical criterion of self-contradiction leads to results, valid to a degree proportionate with the accuracy of the analysed material.

It seems that, in order to use the separate sensuous facts to the best advantage, we must adopt the minute classifications and analyses which have been produced by scientific activity, rather than the less systematic and therefore less accurate observations of the casual observer. Atoms, cells, and psychic phenomena should replace "things," "Nature," and "the Self" or the Ego. When this change has been effected, we may consider by pure metaphysical analysis in what sense atoms, ether, or mind itself are "fictions of the mind," and proceed to employ the incisive thinking, inherited from Plato, and developed by the modern metaphysicians. We must also lay stress upon the value of psychological experiments to metaphysics. Many physicists and physiologists are not fully aware of the progress of experimental psychology, yet some knowledge of the latter is certainly necessary for an adequate criticism of metaphysical work.

Metaphysical
criterion of self-
contradiction
can be com-
bined with
scientific accu-
racy of detail.

At this point the reader may look at the number of pages in this volume, and ask whether the author proposes to include in this space the whole of science and metaphysics. Has the author "taken all knowledge to be his province"? Visions of monographs on a single genus of insects, running to hundreds of pages, must float before his mind, not to speak of the obvious reflection that there can be no such thing as a totality of facts, since for our minds they increase eternally, with advancing knowledge. Clearly, if progress in metaphysics required such knowledge, there could be no progress. This difficulty will be dealt with shortly, and is only mentioned here to avoid misunderstanding.

The Greeks are said to have been turned aside from the study of natural phenomena by Socrates and Plato, though it is probable that their peculiarly human interests would in any event have tended to withdraw them from that course. Men of science have often lamented that they introduced methods of "thinking," which obscured the truths of nature for many centuries. Of the works of Aristotle, the most scientific of Greeks,

the dialectical exerted a greater influence than the scientific. His casual remark with reference to immortality, that it is too *ἄφελον*, cheerless, to suppose that the dead have no cognisance of the living, might then have attracted more attention than his pronouncements with reference to natural phenomena. This gives an illustration of one result of the view maintained in this work: that the line of metaphysical thought has had too great a tendency, or perhaps the human instincts of the metaphysician have compelled him, to think far ahead of the accurate material which was available. Hence, though the methods are good, and the results have their degree of truth, they may be, nevertheless, at times *unrealisable*, and likely to lend themselves insensibly to false interpretation. It is, however, quite a different thing to describe them as *negative*. Again, the feelings voiced by Aristotle in the above remark must receive their share of attention, but it is held that, unless this is *preceded* by a grasp of the mechanical spirit of modern science, and the working out of its possibilities in reference to metaphysical methods, premature attention to human instincts and the objects of unaided sensuous perception is of somewhat questionable value at our present stage of thought.

Myriads of pages would be required for such a purpose, if it were necessary to enumerate all the facts, but the work of scientific men, continually collecting these facts under principles, makes possible, what would otherwise be impracticable. But at the same time our method requires that the writer should really have a grasp of the spirit of modern science, that is, he should have acquired that "instinct" for Nature, whereby it can at least be realised what is *not* the promising direction for research, what is "like Nature," and what is in spirit merely a survival of unscientific ages. This instinct, however, has itself often been the greatest obstacle to progress, for above all others it owes perhaps less to congenital endowment and more to industry

and an education which must be partly inadequate. Man, possibly because he has mind and is not merely nature, is born with little or no comprehension of physical processes, and perseverance as much as any other characteristic is needed. It will be understood that the word "instinct" is not used in any accurate sense on this occasion, and nothing is being laid down as to the relation of the congenital to the acquired; but we are referring to that quality which Huxley, for instance, attributed to the poet Tennyson, a quality far too complex to receive detailed attention in a general introduction, but which is always to be recognised, where it exists, and may be inadequately described in the above manner. Huxley said that Tennyson's poetry reflected the spirit of modern science, for the latter could realise the nature of its difficulties, and the type of suggestion, which would *not* solve them. The number of facts which must be known before such a spirit can be acquired will not be the same for different individuals; no one would dare to claim it absolutely who was not actually engaged in scientific work, but like everything else it is displayed in varying degrees. In the view of the present writer the application of this quality is an essential element in the metaphysical method, which is about to be stated, and which, it is hoped, may tend to reconcile to some extent scientific knowledge with metaphysical analysis. Failure in producing conviction would be likely to result from failure in the attempt to apply the principles of science, since the remainder of this work, though differing somewhat in the upshot, is mainly based on Mr. Bradley's *Appearance and Reality*, and the excellence of that treatise as a piece of close reasoning is admitted by all competent critics. It is, however, true that this writer expressly speaks of metaphysics as a "distinct and legitimate inquiry," contrasting it with scientific work in such a way as to make it evident that he would probably include the present method among those

confusions of science and metaphysics which find favour with none. The main question, however, to be discussed involves the explanation of the exact nature of our present mode of introducing them.

There has been ample reason in the past for severe condemnation of such works, mainly because they multiply the use of terms such as "instinct," and many others in connection with different meanings, and thus increase that confusion of thought, from which even the earliest of philosophers had to extricate himself. We cannot ourselves hope to escape criticism on this point, and the excuse offered is simply the dissatisfaction felt at the spectacle, not of opposing views of truth (which have usually proved to be supplementary), but of opposing methods of pursuing it, which practically deny each other's validity. For it has been characteristic of the last century that the ablest exponents of thought have been men who decisively took the view that either "science" or "metaphysics" is the only road to ultimate reality, if this is to be attained in any degree. Those who prefer the former have, it is true, nearly always in some places indulged in reasoning, which in their opponents' work would be called metaphysics, and it has also been a commonplace in purely scientific works to speak of the "philosophy" of biology or psychology, referring to the greater generalisations, such as those of Darwin. And this is the only meaning that need really be attached to metaphysics, which has actually differed from science, not in method of thinking (for thinking is always the same), but in the nature and quantity of the material, the more extended use of analysis and comparison, and through the minuter specification of the material for experiment and observation in the hands of scientific men. It is therefore hoped that the closer all-round analysis of "metaphysics" can be applied to the more accurate materials of "science," and these terms are now written within inverted commas, so as to indicate that the two are not to be regarded

as subjected to an artificial combination, but as being, *for the purposes of philosophy, naturally one*. Experiment and observation, indeed, must be absent from this work, but only because it will so freely include the results of the experiments and observations of others. Every man of science is accustomed to proceed on the same principle.

Science and metaphysics ideally inseparable.

The method which is to be employed can now be plainly stated. A certain number of obvious differences in the universe strike the most superficial observer at our present stage of evolution, and these provide the human mind with a limited number of workaday conceptions and perceptions, sufficiently precise for ordinary life. Examples of each are "infinity," "material objects," "character," and the like. It is not proposed to analyse the ideas of these objects or conceptions, but, taking the human being engaged in some habitual process of activity, physical or mental, with reference to one of them, to inquire, first, what exactly is occurring, according to scientific research. Thus, if this sheet of paper be taken as the material object, we should first inquire into the nature of the activity of its molecules and atoms, and of the intermediate ether between it and the observer; we must also discover, as far as possible, what is occurring in the nerves and the retina of the observing eye, and finally, through psychological inquiry, what the "mind" is doing. If anything were to be found common to this example of interaction and similar cases, it would then be necessary to inquire whether this principle is applicable to all such types of interaction between the human being and material objects; in fact, the regular course of scientific generalisation would follow. If any principles come to light in this way, they should then be dealt with in comparison with each other, and this latter process would resemble what is known as metaphysics, and certainly would require its close prolonged reasoning. Thus metaphysics will always determine the form of the question, while science provides the material for answering it.

The present method—Processes of activity, not entities, to be discussed.

The other example was a conception, "infinity." Here ether, if recognised as infinite, would at once be substituted for infinite space, since ether is at least regarded in scientific reasoning as an entity actually existing in some sense, and possessing more or less intelligible qualities. The psychology of the genesis of our perception of such an undefined object as the sky, as well as the physics involved, would play an important part in the inquiry, and this example is chosen in order to illustrate the fact that our method must intentionally combine the *results* of the genetic with the analytic procedure, since men of science usually employ the former, and metaphysicians always the latter. It is hoped that in this way a comparison may be made between the ambiguously infinite ether and finite matter, which might lead to a definition of the latter in terms, which would have a real meaning for us when applied to the other forms of existence, ether and mind, which complete our universe. Such a description of matter would not include the property of filling space, for instance, or of impenetrability or lack of consciousness, which are merely synonyms of the word matter, and are therefore useless. Pure analysis of the conception of ordinary matter will produce synonyms, or show that the conception of matter is self-contradictory, or prove that the mode of its appearance is due to the "forms of the human mind." But the conception, which should finally be subjected to these two latter criticisms, should not be a synonym, however accurately expressed, for the term "matter," but the result of a comparison of the scientific observations on ether, matter, and mind. These final metaphysical criticisms on such a result must ultimately lead to the same conclusions as are familiar in Plato, Spinoza, or Hegel; the "pure intellect," which is merely *thorough* analysis, has always led us to some form of intellectual idealism and to the Absolute, but the latter conception may assume a different aspect when it is founded on more precise data

Essential elements of an useful definition of any fundamental conception.

than are afforded to analysis by "things" and "ideas," and light may be thrown on that word "transcending," for ever misunderstood, by the *illustration* of its exact meaning from its presence in far humbler objects than the Absolute. It is not, however, sufficiently realised, when reference is so frequently made to the disagreements of metaphysicians, that there are many conceptions, upon which all are agreed, except those who begin by stating that they will not be "metaphysical," with the inevitable result that they finally produce a half-hearted metaphysics.

Metaphysics should provide a theory of existence-as-a-whole, and as no one denies that for our immediate apprehension there is more than one type of existence, there is no reason for not taking the electron corpuscles, which compose atoms, or the ether, or the sub-conscious, or the "split-off personality" of psychology, as seriously as a table or the human "mind." The struggle for existence has provided the conditions, which have determined what combinations and forms of matter and forces shall be apprehended by our senses, and if our "things" and conceptions of matter are not to be a one-sided representation of material existence, we must reduce them by scientific aid to the constituents, which have the advantage of making intelligible the motions of the familiar material objects which we see around us. And if it is true that matter can only be defined in terms of motion, it is preferable to take as our subject-matter that form of matter which is inevitably associated with motion. For a ball may be at rest, but not so its molecules. Neither matter nor motion may be ultimate realities for metaphysics, but let them first be equalised, before we proceed further, since the scientific evidence is unmistakable on this point.

The serious objection may be raised that the explanations of science often change, and with these changes our metaphysical views would be affected. But a closer investigation shows that there are certain conceptions,

Effect of
changes in
scientific con-
ceptions upon
metaphysics.

which develop, but are not radically altered, and it is characteristic of that scientific spirit lately mentioned to realise which are to be regarded as such. Thus though electrons or corpuscles may replace atoms, as the ultimate entities, and the conservation of energy and the indestructibility of matter (in their original sense) are challenged, yet we are probably justified in believing that where there is finite matter, corpuscle, atom, or molecule, there will be motion also. The objection may be raised that such secure conceptions are very few, and can hardly carry us far. But it will be seen that the actual introduction of scientific details, though essential, need only be occasional. It will always be necessary to know those fundamental relations in which scientific theory describes, though it does not explain, matter, ether, life, and mind ; nothing more is required besides the certainty that there are no facts contradicting the formulas selected. The remainder of scientific detail is concerned with combinations and supplementary forces developed by these combinations, and to take account of these details would be a return toward those arbitrary molar wholes, the familiar material objects, which are presented to our vision. These bodies are by no means worthy to be taken as representative of the material world, for, on the one hand, their motions require to be explained by the molecular theory, and on the other, they have not even the comparatively direct motion-as-a-whole of such an organisation as the Solar System, which is too large to be drawn aside easily from a straight course. It is thus seen that, though it has been said that the help of scientific theory will be utilised, there is a definite reason for the paucity of scientific detail, which will actually be found in these chapters. Such a feature would otherwise seem strange to those who have naturally come to look upon mass of detail as absolutely essential to the discovery of truth, and would be inclined to expect it most of all in such an attempt as the present work. But the exact *purpose* in

Degree of
scientific detail
needed.

view makes the whole difference, and it will even be more important to select illustrations which clearly represent the various metaphysical relations arrived at, than to enumerate facts, which exemplify principles already proved by the investigations of great men of science, or which indicate the direction in which to search for new supplementary generalisations of science. It is with reference to this distinction that a comparison will shortly be made with the works of those who are usually described as having based their philosophical views exclusively on the "facts of science." These works, however invaluable as familiarising scientific conceptions of the history of the universe, are liable to be discredited in certain respects, so far as their explanatory principles are concerned, by new developments, such as those due to the experiments on radium.

It may be asked why forms of interaction between material bodies, or between human beings and material bodies, should be taken as suitable to this simultaneous use of science and metaphysics, taken as naturally one. Activity both of mind and matter is liable, as Mr. Bradley has perhaps most lucidly shown, to the criticism which rejects its claims, as at present observed, to ultimate reality. But our choice is of this nature, because activity is perhaps the prime experience of mind; the animal or savage acts before he is capable of developed thought, and the animal rarely takes note of anything but active moving objects; therefore so long as we are concerned, not with explaining the activity, but simply with recording it with accurate detail, preliminary to a comparison with other activities, we cannot take a better subject-material for our starting-point. It has always been hard in metaphysics to elucidate the meaning of the existence of an entity taken singly. It is more satisfactory to observe, that two objects have some influence on each other, and proceed to split up their entities, not with a view to "explaining" their interaction, but to describing it more definitely.

Preference of activities to entities as subject-matter, since the former under certain conditions apply both to mind and matter.

Advantage is gained, because mental conceptions are obtained by comparisons, duality being thus tacitly involved ; and since this is so, it is preferable that there should be a comparison of objects which do actually, taken as material, influence each other according to some *special* observed principle. This is more satisfactory than comparing objects which are merely brought into a "cold" relation by being both, for instance, apprehended in space, and affected by gravitation, or by being both observed by the same mind. Again activity is more convenient than existence as the basis for investigation, because, referring to the alteration of one entity by another, it is applicable to mind. For mind's *existence*, as opposed to its *activity*, is indeed not easily defined, even provisionally, for working purposes, and it will be seen presently that the problem of psychophysical interaction has not been prejudged by this uncritical application of activity to both mind and matter. Force and energy, the special terms of the physicist, have been avoided ; for it has merely been laid down that experience has shown the wisdom of beginning by considering one object taking effect upon another object, rather than by considering the existence of an object taken alone.

Also in actual life we are always concerned ultimately with the action of a thing upon ourselves, and not with its existence ; for even if we take æsthetic admiration of the sky, for instance, which has not, in the ordinary sense, the capacity of taking effect upon us, the physicist would at once speak of ethereal vibration, and refractive effects of the atmosphere, while the poet would idealise the stirring of the feelings. Above all things, our simultaneous use of science and metaphysics must begin with occurrences in actual life, and, until highly civilised, we do not pay much attention to objects, unless we expect them to act upon us, or hope to make them act in our interest.

We have not attempted to give even a working

definition of activity, for, if so regarded, our statement would be from one point of view rather absurd. For a concrete term has been introduced into the description of an abstract one, and probably in no respects fulfils the conditions usually laid down as essential to a true definition. The aim of the regular definition is suitability to the greater number of probable occasions in which the defined object or conception will be brought into relation with other ordinary objects or conceptions. But in the case of one of those few supreme conceptions, such as time or mind, by the presupposition of which we render apprehensible the entire cosmic process, but which are themselves only *implicitly* apprehended in ordinary life, the sole requisite can only be, that the terms used will be to some extent applicable to the other supreme conceptions, which are its peers. Thus we could not be justified in employing the word "energy" in the physicist's sense followed by its use, as metaphorically applicable to mind. "Geistige" energy is not a fortunate idea, metaphorical or otherwise. But it is allowable to apply the term "activity" to both mind and matter under the following conditions. Every one will admit that a "material" object can, and probably always does, take effect upon other material objects, if only by altering their spatial relations to each other through gravitation, but psychophysical interaction is quite a different matter. If, however, after exactly defining what we propose to understand by the mental aspect of the psychophysical organism, it can be shown in detail that in a certain sense that which "underlies this aspect" takes effect upon other material objects, in a double manner and on a principle which is not observed, unless this "mental" aspect is concomitant with it, then the use of the term activity, as applicable to both "mind" and "matter," will be justified. We should also point out that the absence of this effect necessarily ensues when we are concerned only with that type of activity which is associated scientifically with mere

matter. For referring to both mind and matter there will be this in common—that the active organism, being of a certain definable character in some respects, alters another object, being of a certain character in some respects, while it may be equally shown that, because they are of these respective characters, another element of activity, observed elsewhere, would not be possible between them. This latter element happens to be the subject-material, upon which the attention of students of physical science is directed, and which alone is required by them for their special purposes.

But nothing can be found which will justify the uncriticised application of the same term “existence” to both mind and matter, and this truth is inaccurately expressed by some thinkers, who have been found to say that “mind does not exist except as an epiphenomenon,” a useful, but too vague term, since “phenomenon,” though adequate for scientific research, is not sufficiently defined for metaphysical purposes. But though “existence” is discarded as a common ground between “mind” and “matter,” a later chapter will give in detail the reasons for maintaining that “activity” can in part be applied to both of these conceptions, and unless it were partly applicable and partly inapplicable, it would not be useful as an instrument for thought.

It may be noticed that the “mental aspect” of the psychophysical organism has been mentioned, while the remainder appears as “matter.” This is not due to any materialistic presuppositions. It has been said that each process of activity will first be treated in terms of scientific procedure, and natural science must assume matter, as the self-existent, for otherwise it can proceed no further. The case of scientific psychology is similar; there also the mind (taken objectively) must first be assumed as self-existent, whether it is so ultimately or not.

Recapitulation.

The method of this work may now be restated. It is held that, ideally, science and metaphysics should

never have been separated for the purposes of philosophy. But man was too anxious to know his own place in the universe, and reasoned far ahead before his notion of physical nature had more than an outline of the truth in this quarter. Yet his reasoning was true, as far as it went, and the "thin abstractions" of metaphysics have not been false, but rather incomplete and partly unrealisable. Intellectual activity had no right to follow so closely in the wake of religious instinct, though it had every right to take account of the facts of religious experience as well as of all other facts. In the Middle Ages metaphysics was bound to theology, and even Plato's philosophy is at times coloured by an ideal conception of morality, which is only free from danger side by side with the detailed recognition of a non-moral physical Nature. Scientific observation is now elucidating the details of that ordinary outline of Nature which is familiar to us because necessary to common life. If some conceptions of natural processes have been attained which develop, but will not be reversed, and if these conceptions can be rightly discriminated, this work is not premature. The true position is that men of science, for their particular purpose of investigating the alien material world, rightly separate themselves and their methods both from metaphysics and from popular thought and instinct; but metaphysics, which aims at describing the nature of the universe as a whole, must separate itself from no means of attaining truth. The compendia provided by developing science should be employed, and as from time to time science brings to light more principles that develop but will not be reversed, the type of metaphysics here recommended can develop with them. It is to be noticed that the fuller realisation of human feelings and instincts through poetic and religious genius, both as simply felt and as reflected on (though these two always graduate into each other), is of equal value with fuller realisation, through scientific research,

of the principles of Nature. All will tend to throw light upon the character of the whole or the Absolute, and to indicate, for instance, whether that conception is compatible with the ordinary ideas of Deity.

No attempt at
solving purely
scientific prob-
lems involved.

Processes of activity, then, or of interaction between entities of various kinds, will be taken, for the reasons given, as our material. We shall first disentangle the ultimate scientific entities and motions involved therein, and when a suitable conception has been thus obtained, this is to be compared with other conceptions gained in the same way. The regular "metaphysical" methods will then be employed. It is evident that this inquiry will never involve any attempt to solve purely scientific problems. No theories of the origin of life will be offered, irritating the skilled biologist. But the scientific descriptions of these phenomena will be compared with each other after we have sifted and extracted the relevant elements, and applied to other types of existence whatever can have a real meaning when thus applied. It is with only one of these types of existence that each branch of science, in its own sphere, is concerned.

That there can be such genuine connections is suggested by our scientific knowledge of that continuity in the evolution of matter and mind which is now always upheld against older views of the nature of the universe. There are also, apparently, "breaks" in the world, as between mind and matter; but we need not at present discuss this question, since it is one of the objects of metaphysics to investigate the nature of these apparent breaks. Now, we do not think of activity except as a quality necessarily pertaining to an entity, and implying its existence. But we are quite prepared to imagine an entity which is not active, though scientific experiments have shown that there is no example of such a fact. The nearest approach is an entity, relatively inactive as-a-whole, in comparison with surrounding objects within a larger inclusive system. Thus a ball

lies "still" upon the earth, which itself is moving in its planetary revolution, while the molecules composing the ball are also moving, but yet it is the ball and similar objects which have thus arbitrarily fixed our particular notions of "existence." On what exact grounds do we take the ball as a separate individual object? But as it is more natural to us to think of activity as in one sense the wider conception, since it also implies an existence which may be active, it will be taken as primary.

It is now intended to indicate the relation of this work to those two main streams of thought mentioned at the beginning of the chapter. We shall first be concerned with those who are popularly supposed to have based philosophy on the "firm ground of modern science." It might well have been anticipated at the beginning of the nineteenth century that thinking would tend to assume this form. The actual weight, so to speak, of the achievements of physical science in the mind, and especially the visible signs of its material triumphs in all directions, were certain to produce an exaggerated impression of the extent to which its details are necessary to the theory of existence as a whole. Probably all thought is somewhat affected even by unintelligent popular appreciation, and at length the tardy mind of the British manufacturer has admitted that the new fetish is not a "fad," but may repay study, even from the lowest point of view. Thousands are now unconsciously educated to suppose that man for the first time has a grasp of reality, and that in this is to be found all worthy intellectual life, except possibly culture and refinement. Perhaps this attitude is best illustrated by the singular remark once heard, that physics and chemistry are to be regarded as most thoroughly educating the "*mind*," even of the adult, because they deal with things one can *touch*. Manual training is an admirable exercise in our schools, but the child who is destined to excel even in science

Illustration of the necessity of the present method through consideration of other types of thought.

Prejudices induced by the material successes of applied science.

usually rises above the average in composition. It has been said "Science is measurement," but this might be a dangerous half-truth. As educationalists, we note in England special weakness in understanding the uses of conceptual processes, as opposed to the direct management of persons and things. It is obviously desirable that many should be trained in those particular forms of physical study which are so directly valuable to the material welfare of the community, but it is also inevitable that, such students being in the majority, average humanity must become relatively less clear as to the nature of that completely exhaustive "metaphysical" reasoning which is unnecessary for purely scientific purposes. We must also expect a continuous stream of writers of this type, whose vague idea of metaphysics consists of two erroneous beliefs—that it does not deal with facts, and that it denies the existence of matter.

Herbert Spencer and his criticisms on metaphysics.

The works of Herbert Spencer, though contributing so much that is of value, are peculiarly adapted to increasing the confusion on this particular point. He has so long remained the idol of the market-place, while subjected to the severest criticism in the intellectual centres, that we propose to make one more attempt to give a just appreciation of his great work.

In such a book as Ward's *Naturalism and Agnosticism* we find the criticism of a trained thinker upon Spencer's entire work, which we do not wish to repeat. We are concerned mainly with the first hundred pages of the *First Principles*, in which he deals with "the Unknowable." It is never just to select a few sentences with a view to the hostile criticism of a writer's constructive work, but this is not by any means our purpose. For we shall shortly point out the great value of Herbert Spencer's constructive work, which is not in the least affected by his comparative failure to grasp the principles of the older metaphysics, which he criticises in his first few pages. Two or three fundamental misconceptions

with regard to the latter may be mentioned. In *Ultimate Scientific Ideas*, page 49, we find in a criticism on Kant: "To assert that Space and Time are subjective conditions is by implication to assert that they are not objective realities." This, however, is precisely what metaphysicians do not imply, but to the end of time it is clear that there will never be lacking writers who will misunderstand them on this point. In actual fact the conceptions "subjective" and "objective" are themselves first criticised, and it is finally shown that the particular *form* in which we apprehend space and time is due to the present construction of our own minds, but it is also admitted that space and time are aspects of an ultimate reality, which includes much more than our own minds. We find the same misunderstanding, in principle, when it is said that metaphysicians "dissipate realistic conceptions" and deny the existence of an "objective" Nature. In reality they attempt to make more clear the exact meaning of *objective* reality.

The other main misconception of metaphysical methods is shown in the following sentence. "The Absolute can only be conceived by an abstraction of those very conditions under which thought is realised: it is only a negative notion." A similar statement is also made with regard to the Infinite on the same occasion with perfect truth, a truth upon which we shall lay great emphasis ourselves, but there is no ground whatever for coupling the two conceptions of Infinite and Absolute. So far from being a negative notion, the metaphysical view of the Absolute would be more nearly described as a summation of all other notions, and though it is not claimed that we can give any positive account of the actual nature of the Absolute, yet the mere fact that this summation must exist can be proved and directly illustrated by the relations between mind and matter, as observed in psychological science. We shall presently give concrete examples of "trans-

ending." To this extent, then, metaphysicians deny that the ultimate reality is entirely unknowable.

In place of a lengthy criticism of details, we have deliberately confined ourselves to placing two all-important sentences of Herbert Spencer side by side with summaries of the main metaphysical views, as actually held, in the hope that the essential misunderstandings may be removed. A few more general impressions may be mentioned. As to the vague accusations about "transcending experience," we can only point to such work as ours in detail, when it will be apparent that it consists of an *analysis* and synthesis of knowledge, gained elsewhere by scientific experiments. There is no "impotence in dealing with all that transcends experience," merely because no such attempt is made. Herbert Spencer also points out that the self-creation, self-existence, and external creation of the universe are alike inconceivable. There is, however, no collision, as he apparently supposed, with metaphysicians, who are contented with observing that this ultimate dilemma is inevitable for minds which, as such, have come into existence genetically. Their problem is not the *origin* of the universe at all, but its *nature, as a whole*, as far as it can be ascertained from the analysis and comparison of the observed facts of every type.

We may now turn to the account of the "Knowable," which occupies the vast bulk of Spencer's work. Scientific errors, of course, are not absent, but we have no desire to depreciate the value of this achievement, which is unrivalled as a description by which may be realised the nature of the universe, *taken separately part by part*, in scientific investigation. We are given a splendid history of the universe, projected into the future by the aid of scientific principles. For the principles underlying each science are expounded, and the subject-matter itself of the sciences has been genetically evolved. To the metaphysician this seems no less valuable than any other great historical work, and it provides the

best training in scientific imagination, but he must maintain that it is for the man of science alone to criticise the accuracy of a work which ceases altogether to be strictly philosophical (that is, a theory of existence as a whole) after the first hundred pages. We, indeed, follow a somewhat similar procedure temporarily in the present work, but always with the definite purpose of utilising the results thus obtained for the final metaphysical analysis and comparison.

For example, no accuracy of scientific investigation into the separate functions of heart, brain, lungs, etc., would give us information as to the probable movements of the human body as a whole. It may be said that such philosophy is beyond the human intellect, just as the heart "knows" nothing of the whole body ; but neither does it know anything of the lungs (if we carry on our analogy), whereas it is obvious that the scientific research of conscious minds has already been partly successful in determining the character of portions of the universe other than their own conscious minds. Moreover, it will be pointed out that metaphysical views in many cases have been actually verified by scientific research when they were of such a nature as to be capable of being tested by it. It is scientific theory, not philosophy, which owes much to Herbert Spencer, though men of science frequently accuse him of using expressions which have been found to be partly inaccurate. But both biology and psychology have largely developed on the lines which he laid down, though some of his contributions to the latter science are now shown to have been framed with too much of a biological bias. It has been said earlier that metaphysics should not be separated from the results of scientific research, but this does not mean that we are to confine ourselves to the method (necessarily peculiar to natural science for its own purposes) of taking nature by itself, as self-existent, disregarding both genetic psychology and metaphysical criticism. Otherwise the

resulting philosophy is in danger of losing sight of its aim.

It is significant that Herbert Spencer's evolutionary ethics have exercised a real influence over other accredited thinkers which, for the reason above mentioned, has not been attained by his general account of the universe. The reason is obvious; moral "philosophy" can be treated partly as a branch of psychological science, and the former only came into existence earlier than natural science on account of its connection with religion. But moral "philosophy" is primarily concerned with man, and man has certainly come into existence under the conditions of time, as usually apprehended in evolutionary theory; consequently this study is amenable to purely "scientific" treatment. Earlier writers were generally more concerned with the validity of the moral sense than with its origin; and they strove to establish "conscience" on a firm basis, as its evolutionary character gradually became apparent to all, or at times they were engaged in analysing the different ingredients, æsthetic and intellectual, which enter into its present composition. A knowledge of the psychological genesis of these characteristics would have facilitated the latter task.

It was inevitable that Herbert Spencer, the champion of evolution, should underrate the analytic method. But though we deliberately follow his example, in so far as we utilise the results of evolutionary work, which we accept as relevant to metaphysics, it cannot be allowed that the analytic method is not ultimately the only method by which the theory of existence as a whole can proceed. For such an inquiry must ask, what is involved in "time," and such a question goes behind the assumption involved in the words "genetic" and "evolution."

The great length of Herbert Spencer's work is due to the fact that it consists mainly of tentative science rather than of philosophy, and it is evident from the

accounts given in the journals that the average English mind, which is attuned to the recognition of sterling character alone, is impressed by the splendid perseverance and self-sacrifice of the author rather than by an intellectual appreciation of the merits and demerits of his work, as an attempt to attain the truth.

The immense proportions, the imposing phraseology, and the rhetorical passages which solemnise the profundity of the main scientific conceptions, such as the Conservation of Energy—all increase its influence with minds which are not aware of the cross-examination to which Kant would have subjected the tacit pre-suppositions of evolution, if taken as ultimately real in its present form. The work is also especially adapted to the English mind by the apparent modesty of the conception of the Unknowable; and both in England and Germany the altered commercial conditions have produced a very large class of intelligent men, trained in science alone, and thus naturally inclined to favour a work which is practically a great summary of their own knowledge. Moreover, it frequently occurs that there are quotations from Kant or other “pure” metaphysicians, and this gives the impression that criticism from that quarter would not be altogether unfavourable. Materialism also is repudiated by sentences such as the following, “After all, the universe can be as well described in terms of mind as of matter,” and this often produces the conviction that the essence of the idealist philosophy is included, but this is by no means the fact. A good example of his real attitude towards the spirit of the latter is pointed out in Professor Cook Wilson’s criticism on Herbert Spencer’s *Evolution of Mathematical Truth*. It is hoped that these remarks will bring out clearly the attitude of what is known as the “Neo-Kantian revival” towards a writer whose great work should be regarded as summarised under the misleading title of Synthetic Philosophy, but whose results are frequently utilised in the present work.

Haeckel's
Riddle of the
Universe.

There is another type of philosophy "based on science" such as that of Haeckel, but it will be considered in an appendix for a special reason.

A few remarks may also be added upon pure materialism, which cannot exactly be refuted, because it does not go so far as to fix its terms. Since no one supposes that a brain is not in any sense qualified by what is called "consciousness," it is plainly necessary to show what is meant by a quality of the brain which is recognised in psychology as different from other qualities (such as the secretion of phosphorus), but yet is said not to have a "real" existence. We do not know whether an hallucination would be regarded as "unreal" in the same sense, because the materialist's account of that which elsewhere is called "mind" is wholly ambiguous. Given a skilful surgeon to open his skull and the right arrangement of mirrors, and a man might sit and watch his own brain processes. But the grey throbbing mass could tell him nothing, past present, or future, of his thoughts and feelings. On the other side, materialists also leave the infinite ether, just as it is studied by men of science, not realising that the word "infinite" is itself a confession of failure when we speak of ultimate reality. For it is a merely negative conception implying that an existence is apprehended, but cannot, as such, be forced into the mould of the only sort of existence which our imagination can picture, namely, a finite existence.

A few men have also asserted that ether is finite, and that they can conceive real "empty space" beyond it. No psychologist, however trained in introspection, has done this (apart from the metaphysical criticism which indicates its absurdity), and it is merely another example of the fact that a training in material science does not produce accuracy in psychological introspection. Of course ether may be limited or enveloped by some more remote substance, but this is merely postponing the difficulty.

The conviction which really lies at the bottom of "materialism" is not that which is thus vaguely expressed, but it is the belief that mind is *worth* nothing ultimately and disappears with death, a quite different problem, and that all the creations of mind, except science, have no real validity in the universe. This is mainly due to the difficulty experienced by the sense-derived imagination in trying to picture anything that could really correspond with the aspirations of religion. But there is obviously every reason for not discussing this underlying conviction at length while we are concerned with the classification of systematised types of thought as they are actually expressed.

Materialism, then, is the most uncritical of philosophies, but it is in one respect often like a true theory of existence as a whole, that is, it tends to be of an analytic character, though stopping short of a full analysis. As opposed to metaphysics, which has at least attempted to take account of all types of existence, but not, according to our view, a full enough account, materialism takes, as its basis, one of these three types of existence which we in some sense and in various ways apprehend, namely, ether, matter, and mind, and practically it omits the other two. Its simplicity is the cause of its popularity, apart from the quite irrelevant causes, such as hostility to orthodox religion and similar feelings, but its uncritical character usually excludes it from study in regular schools of thought. It resembles the present work in using the conceptions of physics, chemistry, and biology, but it can hardly be imagined as taking real advantage of the science of psychology, now grown to as considerable a size as many of the natural sciences. Also, in a superficial way, some of the views may seem identical with those soon to be offered, but there will always be the difference that matter has first been contrasted with mind in some particular defined respect instead of being assumed as the tacitly admitted sole reality. Materialism naturally has none of the

wider generalisations, characteristic of the metaphysics, which take some account of all types of existence, and in this respect is also to be contrasted with Herbert Spencer's work, which introduces them to a certain extent, until they begin to resemble the older metaphysics. The simplicity, which has been said to be one of the causes of its popularity, often takes the form of the refusal to admit criticism of such fundamental ideas as time, space, and matter, on the ground that they are self-evident. A contrast is drawn between "plain-sailing" materialism and the uncalled-for subtleties of metaphysics, which are supposed to result in unmeaning and nebulous conceptions, such as "the timeless" or "the super-personal." But the desire of the metaphysician is not to do away with time, for instance, but to give the word a clear, if only a provisional, meaning, for though we all directly experience "time," it is quite a different thing to have a true conception of it. The abstraction "time" in one respect merely means that observed objects change; and an entity which is always changing is not complete. If we have once resolved to appeal to reason, we must run the intellectual gauntlet to the bitter end; we must deal *wholly* with conceptual creations, or else refuse to think at all, and be content with those dumb experiences and feelings which are reality indeed within their limited sphere, but cannot be *utilised* even for practical purposes till reflected upon to some extent, and by that very act, as psychology has shown, partly conceptualised or changed in character. Also it is clear that science, the watchword of materialism, is very far from being simple experience; in fact, success attends the theories of those who reduce matter, which is for popular vision at rest, to the most unlooked-for entities, whirling electrons, and atoms. Truth, as Schiller remarked, was never yet attained through pleasant conversation by the fireside; as Mr. Haldane says in the *Pathway to Reality* the immediate inspirations of

art and religion give exquisite hints of the truth to all, but it is only the iron logic of philosophy that can, after long striving, break through the bewildering incrustations of existence and give some direct justification of the spiritual life.

A type of misunderstanding permeates the Positivist attitude towards metaphysics similar to that which we have mentioned in Herbert Spencer. Professor Lévy Bruhl (1900) has published a work on Comte with a preface added by Mr. Harrison. He replies to the complaint of M. Renouvier and Max Müller, that, as far as Positivism is concerned, Kant's *Critique of Pure Reason* might as well never have been written, in the following terms: "For metaphysicians in general, and still for Kant, universality is the distinctive sign of knowledge, which does not come from experience, and which is therefore necessary and *à priori*." Yet in reality Kant directly denied the possibility of any knowledge which does not come from experience, and the very words "*Critique of Pure Reason*" refer to the criticism of the claims of reason. Kant indeed stated that there were *à priori* forms of the mind which were antecedent to experience, only in the sense that mind, being of a particular construction, necessarily organises all the data of its experience on particular principles. Our *knowledge* of these "forms," however, is not *à priori*, but legitimately due to psychological introspection and analysis of its results. The whole contention of metaphysics in this connection may be thus summed up. Mind, as well as the material world, has a special nature, and if we desire to attain a truly cosmic perspective, we must consider the influence of the former as well as the latter: our outlook must be inclusive both of the subjective and the objective elements of the problem. Comte also remarks that "it is impracticable to determine intellectual laws by analysis of mind reflecting on itself." To this the best answer is the recent success of modern introspective psychology.

Metaphysicians are also accused of claiming absolute knowledge, whereas Positivism is content with relativity. We have already, however, attempted to make clearer what exactly is meant by the Absolute of metaphysics, of which an imperfect knowledge can be acquired. But when Comte criticises the conception of the ego, as though proved to be separate from the body, which was characteristic of certain earlier metaphysical authors, and, again, blames them for omitting consideration of the evolutionary aspect of the universe, his attacks seem to be justified, and these errors are avoided in the present work. The constructive work of Positivists, like that of Herbert Spencer, does not call for metaphysical criticism for a similar reason. It has great merits, but they are not to be regarded as strictly philosophical in character.

Recapitulation
of remarks
upon philo-
sophy based on
science.

We may now sum up what has been said about philosophy "based on science," so as to bring out clearly the position of thought in reference to the present work. Herbert Spencer's work is in reality a history of the universe continued into the future with the help of science, rather than a philosophy; he gives us, indeed, the principles underlying each of the sciences, and is so far analytical, but the main emphasis is laid upon their mode of development in connection with each other. It is the apotheosis of the genetic method. At the same time he is far more critical either than materialists or positivists, for the conception of the Unknowable certainly follows logically from a standpoint that does not criticise the genetic method itself, except in sentences not brought into relation with the general trend of thought. The criticism passed in *Mind* on Mr. Kidd's *Principles of Western Civilisation* applies to all works of this type: "It is unfortunate to select a time formula wherein to vest a doctrine of transcendental obligation," but in the case of Herbert Spencer it is not, of course, an obligation that is in question. He uses the genetic method where

he should use the results of it. Consequently works of this character, though often most valuable for other reasons, all contribute to the theory of existence, as it were, by chance, and in spite of their general method. To leave us with an Unknowable is *ipso facto* to deny the possibility of a philosophy at all, and from a philosophical point of view to be purely destructive. If this destruction is to be admitted, it must proceed, not so much by a construction of a different type, but by a full criticism of those who claim that ultimate reality must, in a certain limited sense, be known. We have therefore confined ourselves to the consideration of the mistaken criticisms of Herbert Spencer upon metaphysical methods and views, for we have no special reason for reviewing the more or less accurate science, and the conceptions derived from it, which compose the main bulk of his work.

Materialism, on the other hand, is a philosophy, for it reduces existence to an unity, of which we know something, namely, matter, but it omits two-thirds of the facts through tacitly prejudging the nature of ultimate reality. It does not unify by applying the same terms to different types of existence in unconscious metaphors, but by denying that there are two (or more) types to be unified.

We may of course conceive an ultimate Pluralism, in which it is absolutely proved that existence is in no "serious" sense one (as is the contention in *Riddles of the Sphinx*), and this would be the real destruction of philosophy. There is no objection to such destruction, but it must begin by the full criticism of those who claim that existence can in a limited but definable sense be unified, and not merely by independent construction and hints that monism always leads to unreal positions which no one seriously believes. No one would seriously believe in the whirling atom, even as provisional reality, unless it had proved so useful, and men of science who postulate such striking entities can

Certain modifications of pure metaphysics.

hardly object to the ethereal aspect of idealism when first presented to the "common sense" mind. On the other hand, those who believe in some type of ultimate unity are obviously not bound to criticise, in full, views which, by leaving us with an Unknowable, abdicate the throne of philosophy, or, by denying ultimate unity, imply that the peculiar power of thought is only applicable within certain limits. For thought, as Mr. Bradley has shown in his *Logic*, is the combination of analysis and synthesis, and if any one asserts that it cannot synthesise beyond a certain point, it is necessary for him to expose in detail the errors in the work of the monists, who claim that it can do so.

Ultimate scepticism.

Ultimate scepticism, or the doubt as to validity of thought at all, can never be refuted. It centres round the meaning to be attributed to "validity." Scientific conceptions, however, which are valid enough to produce successful prophecy, generally suffice for humanity, and the best answer to ultimate scepticism is the question, at what point thought can be said to cease definitely to be valid. For in many cases the advance of science is now able to confirm the views of the metaphysical monists. Universal inter-relation, for instance, finds its scientific parallel in the universal gravitation of physics; the Hegelian necessity of an "other" to mind is illustrated by the physiological doctrine of the relation of the efferent to the afferent activities, and though the man of science must theoretically be prepared to meet with an exception, this possibility is not often seriously considered.

Pragmatism
or Humanism.

A few words may be added on certain aspects of pragmatism, though this is perhaps somewhat irrelevant in an attempt to fix the positions of the various streams of thought. It is said that philosophy, like science, should show itself capable of being applied. Such an application perhaps would be the voluntary transformation of man into some other type of existence, since they are all regarded in a particular sense as

one. But it must be remembered that men of science cannot always apply, merely because they understand. Were another sun to invade our Solar System, astronomers might accurately predict the hour of our destruction, but could hardly avert it. Far harder, though not incredible, would be the transformation of mind, and psychology must have a long course to run before it can achieve such a supreme experiment. But the intellectual instinct itself is a sufficient warrant for the attempt to improve the theory of existence as a whole, without making any reflections upon those who refuse to concern themselves, except with the application of theories. The theory of the whole may indicate the possibility of such applications, but for the means we must look, not to philosophy, but to psychology. Moreover, there are men who would not be fully satisfied even if they were told that they could at will be transformed by automatic machines into another type of existence, unless indeed this new type were the Absolute itself. Then perhaps the pursuit of truth for its own sake might at length coincide with the concentration of all attention upon immediate utility. But the main humanist conception of the teleological character of the presented idea itself will be far from foreign to our line of thought, which takes so great account of the influence of immediate utility in biological evolution, though introduced in the setting of scientific terminology somewhat unfamiliar in metaphysics.

It now only remains to refer to what is generally regarded as pure metaphysics, and to which this work in spirit belongs, though it will take advantage of the aid of science. The objection may be raised by metaphysicians that we are not justified in accepting the atoms and ether of science, for they are merely postulated in order to explain the motions and changes of the arbitrary material objects familiar to our vision, to which ultimate reality in their present form is not allowed. It may be said that we are uselessly invoking

the more unreal to explain that which we already admit, as metaphysicians, to be itself only an aspect of reality. We must, however, distinguish between the form of our sensuous perception and that of our reason. It is true that to substitute the motion of molecules for that of a ball or a planet does not affect the metaphysical criticism upon motion itself. But by accepting molecule and atom we free ourselves from particular prejudices. These are due to our possession of a nervous system refined to that particular degree of delicacy which has been determined by struggling to exist during a certain period under certain conditions. We have, after this elimination, merely to deal with those general phenomena of motion and existence which we shall give reasons for supposing must be necessarily presented to a conscious being, merely because he is a *part* and not the whole of the universe.

Pure metaphysics and its later developments.

From Plato to the present day, the metaphysician has been the man who accepts nothing uncriticised, before he attempts his creative synthesis. This concentration on a subject material, which is often so illusively familiar, renders him unwelcome to the average man, who is ready enough to see the inexplicable motions of physical bodies (which are often painful to him) made interesting and intelligible by scientific research, but cannot see the reason for challenging the necessary and unobtrusive conceptions under which ordinary practical life runs its course. In the interests of thought it is desirable to make special mention of Mr. Bradley's *Appearance and Reality* as a type of thorough and critical thinking. This must not be regarded as due to a desire to patronise such a writer, for it arises from the belief that at the present time there is a special danger of the public ceasing to be aware of what is meant by completely exhaustive reasoning. This ignorance prevails from the fact that science naturally absorbs the vast share of attention, and science, for its own particular purposes, does not

need to criticise, beyond a certain point. It does not need, for instance, to ask for a precise definition of the conception of "time." The value of Mr. Bradley's work is recognised by the often tacit allusions made in all metaphysical works to its doctrines, and it might be said that it holds, as it were, in solution, the essence of pre-scientific German metaphysics, with additions of its own (the author mentions his especial obligation to Hegel). Its value is great, for it is certain that the average English or American mind is not prepared to resort to the originals. There is no necessity for defending the cumbersome phraseology and antiquated psychology of Kant, but the critical *method* of the *Critique of Pure Reason* remains valid against all modern thinking, which confines itself to the summarising of science.

The type of work most in vogue is that of certain professors of natural science, whose names are necessarily well known, and whose religious feelings, outraged by the advancing encroachments of the conception of "Natural Law," are possibly responsible for treatises, either opposed to Herbert Spencer or developing his formulas in unexpected directions. Such a work is Drummond's *Natural Law in the Spiritual World*, or *The Unseen Universe*, to which we shall refer in the last chapter. The present writer is far from being without sympathy for such works, but their perusal always suggests the reflection, how much stronger the authors could have made some of their positions if they had had the time or patience to acquaint themselves with the critical method, as exhibited by the German metaphysicians. But since suspicion of the latter is probably inveterate among the more "positive-minded" men of science, it should at least be realised that some knowledge of the science of psychology would save them from dubious applications of physical and biological formulas to "mind." It is also strange that men, who display such accuracy while engaged in their own work, often seem to

Isolated works
by professors
of special
sciences.

change their character when they begin to philosophise. Thus, in the chapter on "Eternal Life," Herbert Spencer's remark that "Perfect correspondence of organism to environment would be perfect life" is brought into relation with the Christian idea of the connection of the "mind" with God (p. 214). But this use of the term "life" is very vague at times both in Herbert Spencer and his critic. Biologists actually recognise "life" in several ways. Protoplasm is strictly called "living," inasmuch as it displays a certain chemical process. The organism as a whole, on the other hand, which generally includes much that is not protoplasm, adapts itself to its environment, and this is also said to be a mark of "life." (It is, moreover, matter for a whole volume to discuss whether or not we may talk of "mind" in the lowest organic forms.) The two usages have nothing in common, yet analogies are drawn with "eternal life," which presumably is mainly a matter for mind. Eternal life is spoken of as a type of "knowledge," without any discussion as to the nature of a being who exists only in knowing. It is not sufficiently realised that when we speak of "life" and "mind" we are referring to the utterly unknown, except in so far as it is observed that every organism acts chemically in a particular way internally, and has also as a whole certain external relations, which are more likely to be classed under "mind" than "life," since they at least appear to be teleological. "Life" and "mind," as abstractions, have no accurate scientific meaning at all. We welcome, however, all contributions from scientific specialists to the theory of the universe as a whole. For there is a tendency among men of science to lay too much stress upon the material developments accruing from mechanical applications of scientific principles. If those whose minds are naturally adapted to "thoughts that wander through eternity" allow the demands of luxury, or even of legitimate undertakings,

to occupy all their interests, man will be indeed but a civilised animal, whose splendid reason can aim ultimately at nothing higher than the ministry of the body and the senses, or even the cult of the stomach. Such is sometimes the end of the "practical man."

The recent work, *Personal Idealism*, criticises Mr. Bradley in some important details, one of which will play an essential part in the present work. It is practically said that this co-operative book, like Dr. Howison's, was prompted by dissatisfaction with Mr. Bradley's treatment of personality. It certainly seems likely that philosophy will least of all stand still at anything which is equivalent to pessimism. Owing to misrepresentation in some quarters it is desirable to emphasise the fact that the Absolute, as left by Mr. Bradley, is not God, and cannot possibly meet the practical wants of religious human nature. For practical purposes it is equivalent to atheism. But to slur over the incompatibility is the last way to remove it. The tenth chapter of the present work may have been sub-consciously suggested by the desire to find that a God, whom humanity can reverence, is intellectually possible, but so long as the conscious reasoning is not subjected to emotional intrusion it may prove that a share of this instinct is not an impediment to honest thought. Mr. Bradley is also criticised by Professor Seth, mainly for his frequent use of the phrase "somehow transcending," but this criticism does not seem satisfactory intellectually, for Mr. Bradley allows that we cannot *picture* what is meant, and gives reasons for this inability, but insists that the fact of transcending is logically necessary. But Professor Seth's criticism exemplifies the statement lately made that the conception of the Absolute is valid but hard to realise, and hence likely to lend itself insensibly to false impressions. The purpose of the present work has been already described: it is to give more content with the help of science to the conception of the Absolute, if possible, but at least to mind and matter as they are viewed in the light

of the theory of existence, which issues in the conception of the Absolute. In the Preface we have explained our attitude towards the anti-Absolutist tendency.

Von Hartmann and the philosophy of the unconscious.

It may be noticed that no mention has been made of that development of metaphysics, best represented in Germany by Von Hartmann, which utilises developing psychology so as to produce "the philosophy of the unconscious." The conception of "mind" is rightly taken as too vague in the light of psychological results, but rather undue stress is laid upon an aspect of it which is unfortunately ambiguous at times. Dr. M'Dougall has emphasised the necessity of avoiding the introduction of a third separate type of existence, "the sub-conscious," except provisionally, unless we have certain evidence that matter and mind together, when adequately defined, are not competent to meet the requirements. When fully and adequately defined, no doubt anything will be found to include some aspect of everything else, but the sound objection to the sub-conscious, taken philosophically, as opposed to psychologically, as a provisional entity, is that we neither apprehend it sensuously, as we apprehend matter, nor in that introspective manner by which we apprehend our own consciousness. The existence of the sub-conscious is postulated wholly on account of its effects, and though that characteristic equally applies to material atoms, there is in this case the difference that we can at least picture to ourselves the material atom, but the sub-conscious entity can neither be sensuously imagined nor introspectively visualised. Ether, however, is partly in the same position as the sub-conscious entity: it is inferred wholly from its effects, and cannot be pictured or apprehended either as matter or mind; but since we have no lower stage of existence with which to try to group its qualities, we are compelled either to put ether into a class by itself, regarding it merely as a logical necessity, or to describe it in material terms, which will ultimately contradict themselves. The "sub-

conscious" often comes dangerously near to posing as the Unknowable, though there is in these writings a full comprehension of the metaphysical criticism that would be passed on such a position from an Hegelian point of view.

As a science, however, and for the purposes of merely accumulating abnormal psychical facts, as Myers has done in part of his work on the *Survival of Human Personality*, psychology is entitled to treat the sub-conscious as a provisional entity without reference to metaphysical criticism, just as physicists have a right to hold that "infinite" ether exists as fully as a wooden table. In both cases these sciences are led by their very investigations outside the material upon which they start, and without further criticism of the essential nature of these external entities (so alien, but still necessary to their special subjects), they can determine the effects produced upon the latter, and describe in their own terms the processes occurring in the former. And it is of no importance to them, as sciences, that these descriptions of the alien existences must be ultimately self-contradictory.

But philosophy, at least, must leave nothing self-contradictory, so that it can finally accept neither ether nor the sub-conscious as such. Otherwise the former will presently pose as the "thing-in-itself," and the latter as the "noumenal" self, where Herbert Spencer unconsciously joins hands with Kant in his less successful moods. But men of science, who have resented this apparent interference with ether, need not object to a criticism which in the end applies equally to mind and matter. It is a mistake in tactics to tell the physicist that ether and atoms are not realities, without adding that the same is true of ordinary matter and mind, if taken as independently self-existent; if all these are put in a breath, there is less curiosity about a reality, which plainly does not affect science at all.

The theory of existence owes much to the "philo-

Metaphysics in reality has always used undeveloped scientific material.

sophy of the unconscious," just as it is suggested that it may now owe something to the taking account of the results of other sciences beside psychology, if treated according to a critical method. Even Mr. Bradley sometimes uses psychology in his metaphysics, as indeed he really uses the natural sciences also, when he analyses "things." For the transition from the vague blur presented to the infant's vision to the "things" of the adult, and thence to the atoms of science, is after all graduated, and it is only the chance of our eyesight and physical size, determined by the struggle for existence, that produces the microscope and the apparatus which seems to mark off science so absolutely from common life. The bacillus, if it had a mind and eye, might with a glance give to the bacteriologist the information which he needs on the subject of cells. The infant, when "focussing" its sight, experiments and observes, only differing from the man of science in so far as "previous evolution" is then doing the work, instead of a personal mind with its conscious purposes.

One remark may be added on the use of the word "genetic." Processes of activity are to be the basis of this investigation, but they are themselves, *ipso facto*, genetic, in a sense, and would seem to contradict the view that philosophy must be analytic in method. But this is merely one form of the fallacy of the ever-shifting present. In a sense, man could not be purely analytic. But if no change in the process-as-a-whole, as such, is introduced, the method is analytic, just as it would be were we analytically considering any entity, taken as continuing the same for some given period, which science proves in fact to be always gradually altering. Of course no process of interaction, that may be taken, can really be separated from what has preceded it, and so be a completed process-as-a-whole, but it can be sufficiently detached, as matter can be separated from ether, for instance, and thus be capable of serving as a possible starting-point.

CHAPTER II

FORMS OF MENTAL APPREHENSION

IN working out the principles which are essential to our method it has, of course, frequently happened that reference to current scientific literature has brought to light facts which contradicted the principles as originally expressed. But when the phraseology of the latter had been modified to meet the requirements of the facts, it has often been found that the earlier form, though inaccurate, would have been sufficiently true for the purpose in hand, namely, that comparison of the ultimate types of existence which is essential to metaphysics. Our position differs from the scientific position (where a negative contradictory instance often points out the road to a wider generalisation) in that—metaphysical processes being involved—there is often nothing outside the subject in hand except entities of such a character that the exception would not have a definable meaning if applied to them, and may therefore be quite barren, even if justifiable. Thus a negative contradictory instance might tend to illustrate the nature of mind as contrasted with the Absolute, but have no possible relevance to a comparison with matter, which might be the subject in hand, an irrelevance which would be as great as the time-honoured assertion of the non-triangularity of virtue. It is scarcely possible that all errors in describing the facts have escaped us, since the facts must be selected from the whole range of the sciences. Criticism, however, must be regarded

Irrelevance of certain types of criticism.

as irrelevant if the true processes exemplify the same principle as the possibly erroneous references. Thus it is quite likely that in illustrating the principle of comparison, as being essentially characteristic of the activities of conscious mind, the perception or conception, chosen for this purpose, might not psychologically be the entire result of the exact comparisons mentioned, but it would suffice if the perception were found to be due to any comparisons of the same type.

We are very far at present from attempting to give a definite meaning to the word "mind." In this chapter we are solely concerned with the universe as determined by that particular type of activity characteristic of a mind which is provided with specially differentiated sense organs. These "sensuous forms" must afterwards be contrasted with mental existence itself (so far as that is possible), and again with the reasoned conception of the physical world, as elucidated in the atomic theories of scientific investigation, and finally with the correction of those conceptions by "metaphysical" comparison.

It will often be necessary to consider matter and ether taken together (without mind); this object will be called "the physical world," but when matter alone is referred to, the phrase "material world" will be used. The treatment of the relations between matter and ether in the ninth chapter on "Ether, Matter, and Mind," will also be found to correct certain inadequacies of expression (from a purely physical standpoint) which cannot be avoided in carrying out our present purpose.

We are concerned in this chapter with the reason why, as finite minds, we are confronted by a material world set in infinite ether. It may be objected by men of science that we do not actually know whether ether is finite or infinite. We are, however, only concerned with ether (or any other more remote substance which physicists may in the future see fit to postulate) in so

Problem of
finite matter
in infinite
ether.

far as we are forced to attempt to visualise everything mentally by analogy with visible matter. We fail, and thus call ether infinite, and if we try to conceive it abstractly without any picture at all, we have really substituted the purely conceptual geometrical space for an actually existing ether. Such geometrical space may then be logically treated, as Mr. Russell has lately dealt with it in his *Principles of Mathematics*, but its finitude or infinity has no connection with our present subject. The position, therefore, is as follows :—We naturally base our thinking on the finite material objects, taken as though independent of each other, and this false beginning soon forces us to the futile effort of *picturing* or visualising substance surrounding them, which we afterwards by *reason* assert to be “infinite.” Now we can *perceive* a finite object, and *conceive* finitude, but though we can conceive infinity, no one could perceive an infinite object. If we try to avoid the difficulty by postulating “empty space,” it is plainly absurd to maintain that empty space, which is a word for *nothing*, is *existing* somewhere between two objects. It is sufficient, therefore, to understand that for the present we regard the “infinity” of ether merely as a word covering an inevitable confusion between conception and visual imagery, which must occur at a particular point in the evolution of the human mind ; for our purposes we only need to recognise that ether cannot at any rate be finite in the ordinary sense in which we call material objects finite. It may perhaps seem strange to the physicists, who themselves acknowledge their ignorance of the nature of ether, that so recondite a substance should be frequently introduced by a metaphysician. But in almost every case it will be found that ether is only mentioned in negative terms, contrasting the absence of some quality with its presence in matter. The molecular chemist generally leaves the infinity of ether without remark, busying himself with the processes which occur within it, and which are caused by

Two types of infinite ether have existed on probable physical evidence.

material activity. These processes we are compelled to picture to ourselves as waves in a sea, and since ether is in one sense made finite merely by its inclusion of material bodies, there is no essential objection to the idea of the ethereal waves travelling from one material body to another. But it must be insisted that the infinity of an ether, assumed to have existed before matter appeared, is absolutely meaningless, whereas the infinity of ether, as made necessary to scientific thought by the conception of matter, is not relatively meaningless but merely unimaginable, or not to be pictured by a mind provided with sense organs of a particular type. It will be shown in our ninth chapter that if there is a plurality of material bodies for mind's apprehension, there must also be something in which to set them. This will be conceived as infinite, but ambiguously perceived (for to perception the clear blue sky gives nothing tangible save beauty). With either of these two factors absent the other is impossible. We are, of course, aware that psychologists would probably object to this sharp division between perception and conception, and would maintain that the actual impression produced on the human being by the blue sky (apart from its emotional effects) was due to an inevitable blending of perception and conception, the latter having a greater influence in proportion to the more reflective temperament of the individual observer, and the degree of attention with which he gazed on the sky. But conception and perception are sufficiently separable aspects of mentality for the present purpose. The anticipation from the ninth chapter is made in order to illustrate the assertion that there are different types of meaninglessness, and that the idea of an infinite pre-material ether is quite different from the idea of the present infinite but differentiated ether, which we cannot apprehend as a whole, but which scientific observation proves to have an existence as valid as that of the atom, and the atom,

as we have already said, must be provisionally accepted for our purpose.

Another mode of presenting this view is as follows. We shall be concerned solely with that which exists now, and is a necessary "fact" for the explanation of our present experiences, and has been treated as such by science, even though it may prove in the end to be inconsistent with itself. No one ever had to deal practically with the problem of a pre-material infinite ether; the idea of it arises from pushing back before the dawn of experience what is really one side only of our present experience. Mind, as it is in us, did not exist at that time, or was "potential" in that primitive world, and the fact that both mind and matter were perhaps in some sense included in it, instead of being differentiated from it (as we invariably experience them), probably meant that the nature of that ether itself was different in some essential respect. For instance, it has been shown that light waves in ether have a finite velocity in time. The existence of material bodies is thus essential to their production, but we have no evidence for assuming that ether, if it existed before matter, could support such temporal processes within itself. It seems more reasonable to suppose that matter has made them possible. This alteration in the nature of whatever may have "preceded" matter would obviously be of importance.

But we have a clear fact before us now, and we can deal with it directly. The child, who, as far as possible, should represent pure perception, looks up into the sky and sees the sun or the moon and stars. If it used such language, it would agree with the thinkers that these are finite entities. So far the senses and reason do not collide. But afterwards those children who do not take refuge in "heaven," say that the sun is set in a big blue ceiling, others, that it is in "the blue," or in a blue "curve." Such is the verdict of infants, girls and boys respectively, the last named perhaps showing

Abstract conception of the infinite is too vague.

the influence of drawing lessons. Reason and the senses must collide in the end, and there is no appeal except by examining the nature of these mental activities. Kant, of course, differentiated the human mind, but modern psychology has differentiated it much further. To speak of the "senses" as opposed to the "reason" is to be psychologically inaccurate, but the psychophysical organism, reacting to stimulation in a certain defined way, and again in another way, is allowable, for though the two types of activity are nearly always being combined, their elements are in different proportions at different stages of evolution. In other words, merely to analyse the "conception of the infinite" would apply to a hypothetical pre-material ether as well as to our present actual differentiated ether; it is, therefore, not untrue, but too vague, for these two states of ether would certainly be physical facts of quite a different character.

Bearing of genetic psychology on the subject.

Here, then, is the opportunity for utilising the results of the genetic method of science. Mind has been evolved from a low form of life, and it bears the mark of that evolution. It is irrelevant to urge in this connection the philosophical arguments on behalf of "validity" as opposed to "origin." They will be fully admitted; a humble origin does not necessarily affect the worth of a conception (usually in connection with morality) or its validity when applied to the material universe (for abstract mathematical conceptions, implicit even in animals, are seen to be successful in their application to the entities of the material world). But here we are concerned with the apprehension of the whole physical universe, including ether, and it must be remembered that the particular form of our sensuous activity was determined by the struggle for existence in the animal stage long before the problem of ether could arise, and prompt the inevitable, but futile, attempt to picture it in visualising imagery. Neither our primitive perception of matter nor our moral instincts are here in

Forms of mental apprehension stereotyped in evolution long before such problems could arise.

question, and it may well be the truth that "origin" is the decisive factor in this treacherous idea of the infinite. Mathematics, it may be added, may be brought to apply to the processes in ether, but it is obvious that these processes, conceived on material analogies, are only assumed in their particular shape for the purpose of working out the activities of material phenomena, and do not pretend to exhaust the full nature of ether itself. To use the very word "infinite" is to admit that the entity with which we are concerned is not wholly amenable to methods devised to meet the requirements of finite material bodies.

The animal does not gaze upon the glories of the sky, and the mode of its perception owes nothing directly to that entity, which we know as the infinite ether. We must consider the psychology of the origin of sensuous perception, but it is sufficient to note the instance of a child "focussing" his sight in order to illustrate the processes concerned. The process, however, occupied a longer period during animal evolution, and probably did not follow exactly the same course. Baldwin especially lays emphasis on the fact that in physical development the individual does not precisely recapitulate the race.

The psychological principle underlying the origin of spatial perception has been elucidated by several writers. The child is supposed to have arrived at spatial perception, visual or tactual, through a process of what may be called "sensuous comparison." The first object spatially realised is probably its own body, and this realisation is achieved by the wandering of the finger tips with their differing "local signs" over the chest or some other part of the body. It is also essential to the process of differentiating objects that, in addition to the recognition of local sign in the subject, the various parts of the objects should differ as regards the quality of the sensation which they produce—that one part should yield, for instance, more than another, and

Comparison
essential to all
apprehension,
sensuous or
intellectual.

thus establish contrast or comparison. Active motion, due to conscious interests or inherited instincts, is also needful, but the spatial realisation is only achieved with the help of the infinitesimal amount of "memory," or simultaneous apprehension, logically necessary for recognising that the quality of sensation has changed or is different in various parts of the organism. There is no need to consider the purely psychological problems, involving the rôle played in this process by the internal sensations, accompanying the actual motions of the muscles of the hands. All that is required is the fact that by "sensuous comparison" of some kind, spatial realisation always takes place, and finally the difference between the not-self and the physical-self is apprehended by the implicit comparison of the series of changes in the one with the differing series of changes in the other. Nor are we concerned with the nativistic view, which relies on such facts as the pecking propensities of the chicken immediately after leaving the shell. The degree of congenital instinct acquired at any particular stage of evolution by any particular species of animal is here irrelevant. The first experiences of spatial position by the lowest forms of mind are in question, and Professor Darwin has lately shown that some such experiences must be attributed even to certain plants. At the period when the nervous system was hardly differentiated from the main organic mass, evolutionists are not likely to dispute a genetic view of the origin of our actual forms of spatial perception, whatever tacit presuppositions are implied for metaphysics in this account. The development of visual perception follows the same course, save that a larger objective area is apprehended, while a smaller surface in the subject is sensitive to the light stimulus. The case of the realisation of the third dimension, necessary to the apprehension of a material object, as such, is more complicated, but its apprehension is mainly due to the intimate practical union of touch with sight. It is contrast on a much more complex

scale, and requires the comparison involved in binocular vision in order to become perfect.

The results of psychological research in this direction confirm the view of sensuous and intellectual activity laid down in Mr. Bradley's *Logic*. In that work analysis and synthesis, the unconscious realisation of the "many in one," are shown to be essential to both reasoning and perception, the difference being that the former is discursive, while in the latter complete temporal unification is accomplished, and we have an immediate sensation instead of a continuous stream of thought. Now the physical organism, in which "mind" is active, varies in chemical and physical qualities in its different parts. The surrounding objects also vary in these respects in their different parts. Connection, either immediate or through the medium of ether, causes chemical or physical interaction between the organism and the external objects. "Mind," in its earliest form, is thus our description of the fact that in an organism, in addition to the separate chemical physical or electrical changes (in the retina of the eye, for instance), there is a totalised inclusive "experience." This involves in its naïve "impression" an unconscious comparison of the different kinds of chemical or physical action occurring in the organism, which are not themselves consciously realised by their possessor as chemical or multiple at all. In the inanimate object, on the other hand, there are merely the chemical or mechanical changes. With objects that are much larger the same principle applies: in any such apprehension we unconsciously determine the position of an external object by reference to surrounding objects, and its nature by the "intellectual" memory of the character of former objects of a similar but somewhat differing type. Mind as a conscious stream, whether reflected on or not, becomes discursive when the size of the bodies which it is apprehending is considerable, compared to the size of the body with which it is itself connected. The motions

Comparison is implicit or explicit merely according to the size of the bodies (of which there is apprehension), relative to the body of the observer.

of the invisible molecules are apprehended by us as the immediate sensation "heat." The motion of the cricket ball, on the other hand, gives us a changing perception, lasting through a period of time, and consciously realised as spatially changing, by comparison with other stationary objects, while the motion of so large an organisation as the whole solar system can be given to us only as an ideal conception. All these modes of mental activity proceed precisely according to the same method, but in the first and last there is this peculiarity to be noted. Mind having made its apprehensions by a comparison, whether implicit or explicit, in most cases tends to stereotype these entities, thus relatively obtained, as though absolute and independent of each other. But it may sometimes be dealing with an object, such as the cricket ball, comparable as a whole in size with that special material aggregate with which it is itself connected as an entity, and which we commonly call "the body." In that case mind apprehends its object as an "object moving." But a number of molecular vibrations are apprehended and totalised as one absolute sensation, heat; again, the motion of the solar system, being purely a conception to us, is even more naturally stereotyped as absolute or independent, and it requires an effort of imagination to realise that the sun's motion through an infinite, otherwise undifferentiated, ether (supposing for the moment no other stellar systems existent in the universe) would scarcely be a motion, in so far as "motion" can have a definite meaning for our minds. The solar system must have other systems with which to be compared or it cannot have motion, for us, in any sense which is worth trying to define in this chapter, since as a fact there exist other systems. We hope to show that the plurality of systems, which is the astronomical fact, is also a logical necessity.

It may be objected by metaphysicians that we seem to be representing mind as a mere result of special physical conditions, and have forgotten the Berkeleian argu-

ments, which show that these very physical conditions in one sense depend upon the mind itself. It is, however, already evident that the "forms of the mind" introduce a problem which deals exclusively neither with material nor mental processes. We certainly require the assumption that each of us really is a part of the universe and not the Whole, but we consider that many works on Solipsism have given us sufficient warrant for assuming this much. If that is admitted, we are at liberty to prefer the material aspect of the whole process merely as a convenient starting-point, and for the present to regard mind (especially since it means as yet nothing definite) as corresponding with certain characteristics of the external world, rather than as determining the form, under which the remainder of the universe must be apprehended. We may compare Adamson's expression that experience forms mind rather than *vice versa*. It is certainly erroneous to regard the "forms" as something separate.

The principle of comparison must run through the whole of human life. Much of the trouble in the world owes its origin to the fact that for all practical purposes we are forced to proceed by invidious comparisons, which must always be instituted owing to the nature of that physical world in which mind is situated. We have not time to attend to the claims of every one and everything, and the fact of spatial separation makes it impossible for coveted objects to be utilised in common to the extent which might be otherwise possible. Hunger, causing the active motion which is an essential element in spatial realisation, is almost the universal motive in the earlier stages of evolution. But in human history the supervening of the ideal instincts complicates the play of comparison by presenting various objects as equally attractive, but appealing to different instincts. Yet whether some momentous choice is in question, or whether the ordinary course of life is being pursued, it makes no essential difference to our present principle.

Comparison
and stereotyp-
ing of some
kind is now
inevitable.

It may be displayed in long and painful wavering between two courses of action, when the decision is all-important, or in such a trifle as the immediate and unconscious changing of the comparatively uncomfortable position of a pen. But there are conceptions, such as the intrinsic dignity of human nature, apart from the necessarily ill-founded but inevitable comparisons between its representatives. Then it may be true that the tendency of mind to stereotype its perceptions and conceptions, as absolute, is justified at length, but in this case only, because we are no longer dealing with the material world.

Thus the principle of comparison runs through sense, perception, and judgment. There is also a tendency to stereotype, as though absolute, and unaffected by relations, the apprehended object, or some of its qualities, in which special interest is taken. Such is our mode of describing the "forms of the human mind," perhaps more accurately than would be devised without the assistance of psychological science.

Their probable
origin.

Whatever may be the ultimate validity of the sensuous and intellectual modes of mental activity, the reason for the actual form in which we exhibit them may now be suggested. Mind, as it first appears in the protozoon, or perhaps even the biophor, is always connected with a material body, which varies in its different parts as to its mechanical and chemical properties. The organism has to deal with external objects, which also vary in different ways. Hence the molecular and atomic vibrations affecting it from without must produce simultaneously varying effects, and thus its mental activity is directed for ever in the channels of comparison. But, on the other hand, as contrasted with the purely atomic and molecular activity of the inanimate object (as displayed in chemical or physical action), there is an unification of some kind within the organism (in addition to subjection to the universal physical forces, such as gravitation, which unite all material objects in inter-

related activity). We do not indeed find the organism to be an independent entity, both for this latter reason and because the living thing continually requires food from external sources, but there is a step towards such a condition, which is not shown in the inorganic world. If we continually cut off parts of a hill, we cannot say when it ceases to be a hill, but if we lop away parts of a living organism, its death presently marks the point decisively at which it ceases to have that peculiar additional degree of existence which we term "vital." In connection with this, it is interesting to notice that the "life" of cells can survive general somatic death of the whole organism for a time. But our argument is not vitally affected, even if it is proved true that life, as such, was *gradually* differentiated according to Pflüger's view, and that death in many cases is not an instantaneous event. Comparative validity is sufficient when we are dealing with genetic developments. One result of this discussion is to direct attention to the inquiry of the next chapter, namely the sense in which inanimate physical "individuals" have not the degree of existence which the living organism possesses. A ball, for instance, can have a separate motion-as-a-whole, as opposed to the motion of its molecules, but this will be externally determined. It is, of course, true that an animal also is in another sense externally constrained to move towards its prey.

The multiplicity of the "sensuous" and the unity of the "intellectual" has been the theme of philosophy in all ages, and the relation of knowledge to being, an ancient problem in metaphysics, may possibly become less obscure if we consider both in their most primitive forms. The amœba is not so differentiated in its parts that they react to light and heat in a definitely different manner, but among the higher protozoa, especially Ciliata and Flagellata, some such differentiation does undoubtedly exist, and parts, for instance, of the bodies of organisms of the Euglenoid group have

Evidence from
the protozoa
and metazoa.

been shown to react more promptly to light than other parts.

This process of differentiation, considering that these lower forms consist of but a minute speck of protoplasmic substance, reaches a very remarkable degree of development in certain groups, more especially in some of the higher Ciliate Infusoria. It attains its highest perfection in the metazoa, whose special senses have been chiefly studied. These organisms also display that special form of motion-as-a-whole which is taken as indicative of the presence (in an embryonic form) of mind. They are thus active both as a whole in a particular manner, and also atomically in their parts. As we have pointed out, the various parts of the organism react in a different manner to external stimulation. It is by their contrast with the differing qualities of the various parts of external objects reacted upon that the "forms of the mind" or of mental apprehension are developed, long before we are prepared to maintain that the organism clearly possesses a "mind."

Forms of mental apprehension coincident with the forms of the activities of the body long before the mind is explicit.

The "forms of the mind," therefore, are coincident with the forms of the activities of the body, due to the organisation of a variety of physical and chemical activities in one whole, which also exhibits, as such, a special totalised activity. There is no need yet to say "for one purpose." The scientific attitude, which endeavours to avoid the "teleological," if possible, is justified; it is quite sufficient that in addition to the ordinary physical and chemical atomic relations to other objects there is now a third relation. By virtue of this a motion (rendered mechanically *possible* by the earth's over-ruling gravitation) takes place towards certain other selected objects, apprehended as wholes. For as evolution progresses, the perception of the prey, with its significant meaning, if taken as a whole, supplants such a dubious type of activity as that which impels the spermatozoon to the ovum. As soon as these

activities become obviously similar to our own, we speak of mind, but as there certainly does not exist at the lowest stage the reflected-on conscious stream, it is of no importance for the purpose of the present chapter whether we speak of life or mind. The "forms" of the mind are already active, whether "mind" is explicit or not—this much is essential—and the spatial world is apprehended under the principles, which will presently govern the wider perceptions and far loftier conceptions of man.

Relation of knowledge to being.

It is now obvious why a chapter on the forms of the mind has preceded analysis either of mind or matter. It is extremely hard in metaphysics to organise the material accumulated under satisfactory headings, for the nature of each of the types of existence, mind and matter, when fully expressed, continually involves the other. The problems must be attacked, as it were, by approaching them in concentric circles. The activity of the "forms of the human mind" might be expressed as mental activity, and even as mental existence; yet unless there is to be total confusion, a more or less arbitrary line must be drawn somewhere in our terminology. Happily, the extraordinary entity, which we call "mind," affords us something of a break when it begins to reflect upon itself, though leaving us in doubt as to the best mode of describing it before that stage. When mind reaches the crisis of turning upon itself in introspection, the same principle is still obeyed. Our own thoughts are stereotyped, as separate entities contrasted consciously or unconsciously within the latent whole of personality. Above all, we often feel intensely the apparent isolation of our separate personalities, though metaphysics assures us that in some sense they must also be ultimately capable of union. Psychologists, moreover, insist upon nothing more strongly than the continuity of the mental processes, though commonly we regard ourselves as conceiving one idea and presently another. Though the mind

Thus discussion of the forms of the mind precedes consideration of mind and matter.

thus works by comparison within a whole, which can only be an unconscious basis of activity, it is evident that this is not a method wholly adequate to the demands of the universe. The whole ought not to be merely sub-conscious, and thus it appears that thought is intrinsically inadequate to the full appreciation of reality.

Ordinary comparison by concentration of attention on a specially defined object in a vague background.

It must have been noticed how the terms "consciousness" and "unconsciousness" fail to express these complicated phenomena. For in sensuous apprehension the background to the objects on which attention is directed is usually competent to produce a certain "psychical" effect. If we look at the sun, we are aware of the surrounding blue sky to some extent; but when we think of our "separate" thoughts, it requires some deliberate reflection to form the idea of the embracing personality. This latter conception has a degree of latency quite different from the comparatively effective perception of the blue sky. In fact, direct sensuous apprehension is completed synthesis, that is, true apprehension of reality, so far as it goes, but reality also extends beyond the range of our senses. Consequently, in another way altogether, sensuous apprehension is inadequate merely because it must make an arbitrary selection from reality.

We are now in a position to return to the problem of the infinite. The earliest forms of life moved among surroundings whose physical and chemical properties gave ample opportunities for the development of such a mind as we have described. Consciously apprehended multiplicity within a sub-conscious unity (with consequent stereotyping of the former as the "real" entities) furnished the essential and ineradicable form of its activity. Water provided a surrounding medium full of objects, which in a physical sense were presented, as connected by it, to a being as large as the amoeba. For the "distance between the molecules of water" could not be appreciable to such an organism. The apprehension of

the medium water and the separate objects within it developed simultaneously, but the deeper mark was necessarily left by the distinctive objects, since they provided food. Our own present position as regards matter and ether is very similar. The sea could certainly play the part of the infinite medium to the fish, if the latter could consider the matter.

It is not worth inquiring if the ether of physics, as such, is infinite at all. We should merely confront another unintelligible entity beyond, if it should be proved that with sufficient sensuous powers we could reduce the ether to a finite existence, as we now reduce the sea in conception. Again, absolutely empty space, though occasionally suggested, would indeed be a fiction of "pure reason." But it is very important to observe that life or mind does not actually develop, except in physical aggregates of a considerable size. Even the biophor, the original form of life, according to Weismann, would be enormous compared to the atom or the electron corpuscle. This fact makes possible for the organism the apprehension of other objects as *wholes*, provided that it contains some principle by which it is itself active in a special manner as a whole. It will, being of such a size, necessarily disregard the distances between the atoms in a molecule or the electrons in an atom. A single percipient electron is psychologically impossible, for psychologists demand a *combination* of cerebral activities for the production of a flash of consciousness. Life and mind, as specifically defined by men of science, are never displayed in the smallest physical entities, but only, to use Weismann's phrase, in a higher unit, that is, in certain totalisations of these atoms. This is as essential to our understanding of the particular "forms" of mental activity, which the organism is destined to exhibit, as the supplementary fact that the universe-as-a-whole does not display those special teleological phenomena which are presented only in connection with our nervous systems.

Application to the apprehension of ether as infinite.

Extreme importance of the fact that mind is not observed except in physical aggregates of a particular size.

Perception of
the blue sky
and conception
of ether beyond
a finite atmo-
sphere.

When confronted, late in evolution, with a medium such as ether, which has no differentiation appealing chemically or physically, as ether, to the senses, mind can do nothing but "sensuously feign" an embracing whole, the blue sky. This only differs from the sea, as that appears to the fish, in proportion as we differ from the fish in the nature of our perceptions and in our peculiar development of conscious conception. We have been educated, so to speak, to sensate in terms of finite entities included within some medium, which in comparison with them is vaguely or sub-consciously apprehended as infinite. We then continue, as evolution progresses, making finite one infinite medium after another, until we reach an entity, ether, with which there is nothing for our limited senses to compare. Then we halt in confusion, and the unmeaning and negative *conception* of the "infinite" emerges into consciousness, again by a comparison, on this occasion, conceptual. This simply shows that the familiar "sensuous theory," so to speak, of practical existence, which suffices for our earthly affairs, has broken down. Unless we are utterly devoid of the high instinct, which demands some degree of cosmic perspective, it is then necessary to undertake a complete revision and analysis of all the imperfect modes of our own sensuous perception. Such was the work of Kant, who, not content even with that astronomical and physical work which suggested the nebular hypothesis, also devoted himself to a profounder investigation. Unintelligible to many who accept his scientific work, this is vaguely supposed to have been an attempt to obtain fresh knowledge of facts from "pure reason" without experimental researches.

Spatial perception, as Kant showed, is a "form" of the human mind, and it remains to define more accurately what is meant by the human mind. In this manner the misquoted transcendental philosophy may perhaps become more easily intelligible without losing

its essential sublimity. The metaphysics of this work is necessarily of the Kantian and Hegelian type in principle, and (in the last two chapters) will assume some knowledge of those well-known principles which, however developed, are themselves synonymous with exhaustive thinking. There is no need to repeat their work, for the modifications will become apparent of themselves when, with the assistance of scientific theory, we have defined more precisely the materials of thought.

It is now obvious in what sense it is contended that the genetic method may be of value to metaphysics. The genetic method would be of no value to the Absolute alone; those arguments which insist on the independence of "validity" apart from "origin" have been of the greatest value, but taken by themselves they strain too high. The mind which employs them has itself been temporally developed, though it may indeed have intuitions of that which transcends time, but the discursive reasoning, which is its powerful weapon, occupies time in its very use. The opportunity of being analytic may be best utilised after we have considered the genetic. Matter and mind both develop in time, and by that very fact they have an element of change in their existence which pure analysis must usually disregard. It is with this element that men of science often deal.

This chapter has dealt with finite matter and the infinite ether, so far as determined by the "forms" of the mind, but there is another aspect of the problem which remains to be considered. The very essence of scientific theory is that it refuses to follow the sensuous forms of the human mind, yet utilises the same forms when they have attained the conceptual stage. Thus sensated objects are dissected into entities, such as "atoms," in order to account for the activities and changes which are displayed to the senses. Evolution has differentiated the vague blur presented to the

Reality of
atoms and
electrons.

beginnings of the visual sense into objects, which are, as a fact, of such a character as to affect the struggle for existence; man with his conscious intellectual instinct carries on the process further in order to "explain" not only the entities he perceives, but also the changes which are to be seen in those entities. He then creates the world of atoms and electron corpuscles, whose exact degree of reality may now be considered. It is misleading, though not false, to say that this world of atoms is a fiction of the mind. The arbitrary objects which we see are, if taken independently, far more fictions of the forms of the mind than these smallest entities, which are required to explain the changes around us. If we are forced to consider matter separately from mind, as men of science must do, the atom is more real than the mountain. But the mountain will lend itself to our sense of æsthetic beauty or of physical exhaustion, while the atom will serve no such purpose. If we attribute beauty to Nature, taking Nature as the merely physical, it is less justifiable than to attribute a certain calculated size, for instance, to an atom. This mathematical calculation is verified by facts, and we may suggest that, owing to its own special instincts, mind hastens to attribute to mere Nature certain qualities (such as the æsthetic or the moral) which, if applicable anywhere, should perhaps be assigned to the universe as a whole, but are prematurely applied to physical Nature because mind cannot sensate the whole. In a later chapter we shall consider whether such qualities may be rightly predicated of the whole. Thus it seems that the metaphysical criticism of primary qualities is misleading, if it unnecessarily leaves the impression that primary and secondary qualities are on a level. It then deserves the hostility of science.

Ultimate reality
of matter and
ether a different
question.

It remains therefore to consider finite matter and infinite ether in terms of primary qualities, meaning by this their own intrinsic existence, from our partial point of view, so far as they have such an existence, and this

problem will be attacked in the chapter on ether, matter, and mind. For it will be necessary to examine the mutual relations of our conceptions of ether, matter, and mind, after they have been freely admitted to be all equally inadequate, if taken separately, as ultimate reality. It will also be understood that we are not concerned with the question sometimes raised by astronomers, and lately discussed in detail by Dr. Wallace, as to whether the number of stars or finite bodies in the universe is itself finite. For from a metaphysical point of view it is erroneous to ask such a question at all, apart from a criticism of the mind which perceives the stars, and of the infinite medium ether, in which as a fact these finite bodies are always situated.

It is thus held that those forms of activity which we know later in evolution as mental take their origin under circumstances which are only simple enough to be adequately realised in the lowest forms of organic life. When we are concerned with the very beginnings of the mental perception it may be possible to see the importance of processes which afterwards become relatively obscured through the complexity of secondary and derived types of activity. With the help of psychology it has been pointed out that the essential plurality and variety of activity or existence in the material world provides mind with a lever, so to speak, in the long career of organic evolution. Mind (for the purposes of activity) is the totalisation of its own material body, whose parts vary in their capacities for physical and chemical action, and react upon similarly varying external objects. The latter are themselves only wholes accidentally, under circumstances to be considered in the next chapter. But they appear to us as wholes merely when their aggregate of atoms is numerically comparable with that of our own bodies. Thus we may contrast a ball, on the one side, with a molecule and, on the other, with the whole earth. Hence the embryo mind produces a new relation with certain parts of the

material world, the nature of which will be determined. It is not well said that there is mentality or purpose in the lowest organisms, but the best description is a new type of relation between two objects in the universe. The principle of life is not merely something "in" the living organism ; it is also the capacity for a new kind of reaction with the external. Life, as described by men of science, abstractly from implicit mind, is a particular untotalised series of chemical changes, which must be maintained, as a series, through chemical assimilation of something external. But, according to its usual custom, mind stereotypes the more obvious term of the relation (namely that within the organism) as "life," just as later it stereotypes itself as mind, as a yet higher unit, though until the advent of self-consciousness it is plain that there is no explicit mind except by "perception" of the external world, and hence by relation to some external object. Yet no one would suggest that the gravitational or chemical properties were possible in a single object apart from another object with which to act and react.

Earliest forms of mind best regarded as totalised activity (in contrast to atomic activities of chemistry) involving a higher unit and an additional relation to the external.

It will be seen that no theory of the cause of chemical action, life, or mind has been suggested. The facts as described by science have simply been placed in a significant relation for metaphysical purposes. That view, which somewhat vaguely refers to the "soul" as the "ideality" of the body, is remarkably applicable to the earliest stages of mind. The forms of the "mind" are at first the *expression* of the new organic type of existence, which, serially regarded in its parts, we call vital ; taken as a whole, we are forced to call mental. Biologists, however, are justified in insisting that the observed facts do not at first necessarily warrant our inferring anything distinctively of a teleological character. All that we actually observe is a material entity, including a series of chemical changes. Other material entities also include series of chemical changes, such as volcanoes. But if this particular series

of changes is not maintained, we do not usually call the entity "living," for it ceases, taken as a whole, to display certain types of motion, which in ourselves would be said to imply the existence of "mind."

Inorganic entities, such as a ball, can be totalised in a sense. Taken as a whole, they can move through space. But this motion with reference to activity (the usual test of physical reality) is completely expressible in terms of the action of gravitation on the sum of the ball's molecules. All the molecules in the universe, if placed at distances proportionate to the square of their weight, would have an equal effect on the ball. But the living thing, in addition to physical and chemical reactions, has another kind of relation to certain objects only, the reaction, which for us involves "meaning." The outward appearance of selective preference, which is exhibited in merely chemical activity, is now further specialised, for the spermatozoon will react chemically to toxic substances, which will destroy its peculiar degree of existence, but it has to the ovum an additional relation, which is exemplified more clearly in the relation between an animal and its prey. The essence of this relation lies in the fact that we call the object *as a whole* spermatozoon, implying a particular destiny and relation, but the reaction to the toxic substance results from the chemical nature of its parts. If we attend to the parts as a series, we speak of life; if to the whole, we can scarcely avoid "mind."

The forms of the mind exactly express this double-sided character of the living organism, the necessity of taking it both in its parts and as a whole, if all the types of activity which it displays are to be justly described. It is not necessary to repeat on this occasion the arguments by which metaphysicians have shown that differences cannot be apprehended save in an identity. The living organism of biology by its activities proves itself both one and many, merely illustrating the results of the analysis of "pure reason" on less accurate

Forms of the mind are expressive both of the mental and vital aspects of the organisms.

Parallel in pure metaphysics.

material. The real difficulty of that metaphysical doctrine arises from the observation that in actual life the unity is not, so to speak, on the same "plane" as the multiplicity, but the fact that they are actually included in one being is not thus altered. The "forms" of the mind express this truth very clearly. The surrounding medium, which furnishes the "unity" in any apprehension, whether it be some physical or mental continuum, is represented sub-consciously, while the differences or distinctive objects, giving the "multiplicity," are stereotyped as separate entities in the conscious stream of intellectual thought.

Central unity, characteristic of mind, is at first implicit, and appears only in motion as a whole of the organism.

We have perhaps given an account of the reason why mind, in its sensuous apprehension, stereotypes the physical world, as though consisting of many separate entities, but an account of the relation of knowledge to being requires further consideration. It is harder to express the relation of mind's own implicit sub-conscious unity (such as its personality) to the physical wholes in the external world, which in its apprehension are often comparatively implicit. Such is the sky, in which it is wont to localise the separate finite objects of its apprehension. The difficulty lies in the fact that mind, while engaged in apprehending something external, can be nothing but implicit, so far as its own unified existence is concerned. For this is only to be explicitly differentiated in any degree by introspection, a characteristic on which great stress will be laid in a future chapter. Mind can therefore only be apparent, as a rule, in the particular type of motion of the organism-as-a-whole, which it prompts, and which in others we recognise as similar to our own. (It is, of course, realised that we do not thus explain how such recognition of the existence of other selves or of the similarity of their actions to our own is possible at all. Such explanation would only be possible through a final knowledge of the nature of mind.) When its forms first appeared in the protozoa, mind was not anywhere differentiated explicitly as "mental," as

opposed to the mere sensuous activity, even though the activity of the senses, taken by themselves, is a mere abstraction of a later date. This differentiation, when it becomes explicit, cannot be described in physical terms at all; otherwise there would be no science of psychology. All that it is at present necessary to emphasise is that the lower organisms are physically active, both as a whole and chemically in their parts in relation to the external world, that is, on a different principle, yet simultaneously. Their actions presently indicate to us that they are apprehending the world in some fashion. It is then evident that they apprehend a scene consisting of parts explicitly differentiated in a largely implicit whole, such as crustacea in the medium, water. The creature has, in a sense, made for its own apprehension an organism outside itself, but there is no need for the outside limits of this spectacle to be strictly defined by the creature, since the struggle for existence only requires attention to be concentrated on the objects within the comparatively implicitly-apprehended medium. It is thus hoped that the relation of knowledge to being may become less obscure by our examination of its character in organisms of so humble a character, that we are scarcely prepared to affirm that they have "mind" at all, though they seem to display a teleological relation with the external world.

We cannot, of course, consciously realise in the least what is meant by differences only being apparent in unity. But this difficulty is involved in the essence of the "forms of the whole human mind." By them an activity of the organism as a whole is displayed, which is as thoroughly characteristic of the sub-conscious factors as of the conscious. We are very far, at present, from making any statement as to the best way of describing the mind as a whole. It is sufficient to point out that the range of our experience, as elucidated by scientific investigation, tends to confirm this particular metaphysical result. The material world has often

Relation of knowledge to being: the external world is apprehended, as far as possible, as though constructed on the principle which in the percipient being we call organic.

been described as a modification of the all-embracing ether. For metaphysics it does not matter whether there are vortices or not. The relation of knowledge to being, or, otherwise, of the unity in difference of a vital organism to the external world, as apprehended by it, may be thus stated. It appears that "the forms of the mind" have tried to make out of ether and matter an organism similar to the vital-mental whole, whose activity they represent, but the ethereal-material system, taken alone, is not of such a character as to obey. Hence mind, on reaching the conceptual stage, understands that ether could hardly act as a whole, like the sea or the organism itself, with nothing outside it upon which to act. Not such is mind in the "sensuous" stage; with the blitheness of the child and the primitive charm of the warrior, unimpaired by the deadly solvent of reflective thought, it forces the infinite ether at a glance into the mould of the "bright blue sky, the gate of heaven," and in admiring the beauty of its own unconscious creation is wholly unaware of the lurking inconsistencies.

Ether
"infinite,"
because not
admitting of
apprehension
in such a
manner.

It will be seen that, as far as possible, the terms sensation, perception, conception have been avoided, because one of the essential points of this chapter is similar to that which is insisted on by Mr. Bradley in his logic, the ultimate identity in character of perception and conception. The special value of "conception" is apparent in all civilised life, just as the significance for us of a certain series of chemical processes lies in the fact that they involve "life"; but in themselves these diversities of mental activity follow the same comparing and stereotyping course, and it is a matter of indifference whether the size of the object apprehended (relative to our own bodies) renders discursive conception absolutely necessary. This last way of describing the situation has lately been well brought out in *Mind* in the article by Toulouse, Vaschide, and Pieron on "Classification of Psychological Phenomena," New Series, No. 44.

It is not satisfactory to apply sensation, perception, or conception to the pseudo-mental manifestations of the amoeba; it is sufficient to point out that the results in practical activity, with which alone animals are concerned, are identical in principle with those afterwards produced by fully-developed mind.

Instances of the activity of these forms might be multiplied to the same extent as the universe is wide. In a purely scientific work it is desirable to show in as many cases as possible that the principle suggested is applicable; but in metaphysics, where the principle, if true, must often apply almost to everything, it is only just that it should be left to the critic to point out contradictory instances. An organism is an organism by reason of its possession of differentiated parts which are yet centralised for the purposes of activity. Corresponding with this, apprehension of differentiated parts in the external world is the primitive essential of all mental activity, and the connecting unity is comparatively implicit, as in the case of the sea, air, or vague background of objects.

The comparing and stereotyping forms of the mind run through all its career, but are perhaps best exemplified in the sharp antithesis of good and evil. Individuals must be compared, and some must be preferred, but there is a growing doubt in the reflective twentieth century as to the ease with which a decisive line can be drawn between the good and the bad or the competent and the incompetent. Yet the distinctions must have some truth, and it is for metaphysics to elucidate it. It will do this best by considering the matter in the simplest form of the chemical and the vital activities. Comparison, it may be noted, is absolutely necessary for all practical purposes, and is developed in reference to them, as the psychology of the genesis of spatial perception, indicated to be the truth at the period when mind originated. But it is the intellectual and moral instinct to do justice to all the facts and to

Comparing and stereotyping forms are applicable to sensation, perception, and conception alike, and inevitable in practical life, but challenged by the moral and intellectual ideals.

all other men, which actually leads us to challenge these forms of consciousness, if taken as ultimately valid. For all practical purposes and the consideration of necessary means, determined by spatial and temporal conditions, a choice must be made, and mere comparison remains necessary. But it is also true that without it, whether on the part of others or ourselves, there could hardly be developed the conscious effort towards self-improvement.

Biologically evolved instincts are often suitable for acting ultimately as a basis for the different forms of the higher ideal life, for this characteristic is also found in the case of the social and sexual instincts. Both of these impulses, apparently produced in the struggle for existence, are afterwards found to be capable of being transformed into idealistic characteristics of the self-conscious being, just as comparison, when consciously conceptual, leads to energetic effort towards various types of excellence of a more or less elevated moral character. This will require further consideration, which will be bestowed upon it, when we analyse in detail what exactly that process is in its simpler forms, which afterwards become amplified into the far-reaching struggle for existence.

Difficulties
of eternity
insoluble to
a greater extent
than those
of infinity,
because the
intellectual
activity is itself
a temporal
series.

Of time, as a form of the human mind, little has been said, because it has a further complication, for which separate preparation must be made. Taken as applying to the mind, it at once recalls to memory the psychological discussions upon the subject of Association and Redintegration, which first became prominent with Hume. Modern psychologists are not perhaps likely to deny the relevancy of the present doctrine to this case, though they are not yet prepared to define the nature of the underlying personal unity of which mental events are stereotyped temporal differentiations. As applied to matter, it is seen that time, from mind's point of view, begins when the object apprehended is sufficiently large. The motion of the molecule occupies

no time, as far as our senses are concerned, but that of the ball is quite appreciable in our temporal scale. The principle involved is just the same as that which was applied in the case of space. But there is evidently another sense in which these conceptions must affect the material world, and the next chapter will be concerned with this question. We were compelled to devote our first attention to the forms of the mind, but it is now possible to concentrate thought on matter and mind, so far as they can be taken as distinct.

CHAPTER III

PHYSICAL INDIVIDUATION

IN this chapter it is intended to give, if possible, a more accurate meaning to matter-in-itself, ominous as that term must sound to the metaphysically trained mind. It is obvious, so late in the history of thought, that we can never reach anything which will not bear the marks of apprehension by a mind, whose best achievement would be the realisation of the exact degree in which it is itself imperfect. We cannot transcend ourselves and become the Absolute. The present writer has noticed that men who have once passed through a philosophical course of study, and afterwards become wholly absorbed in some professional work, generally retain two convictions. They recollect that mind requires an "other" in order to realise itself as mind, and that the primary qualities, such as extension in space, do not escape, in metaphysical analysis, the fate of the secondary, such as colour. But men of science look askance on this apparent demolition of the primary qualities, and the various works on physics seldom omit a significantly worded paragraph, asserting in unmistakable terms the real existence of atoms. In the previous chapter it has been shown how the forms of the mind necessitate the apprehension of matter as disparate, or discontinuous, though equally inclining it to attend to a single object; the remainder is left as a vague background, valuable only for sub-consciously fixing the comparative position of the interesting object. This is exactly the result, which would be advantageous in

the struggle for existence. It is therefore simply as small objects that we expect to visualise the explanatory entities of science, such as atoms, and no other imagery could fit in with the actual scene of change which is presented to our eyes. But there is an essential difference between the scientific mode of apprehending matter and the ordinary vision of the eyes.

Let us consider a ball lying on the ground. In what sense is that ball individuated? Our main reason for calling it so is its capacity for satisfying our athletic propensities; but whatever else may pertain to matter-in-itself, it is clear enough that this quality is not relevant. The ball, however, can be easily lifted from the earth, whereas the molehill near it, resembling it in appearance, would require a spade, if separation is to be effected. This is merely a question of degree of cohesive force. To the Lilliputian the ball would be as completely a part of the earth as the molehill. Imagine also a giant whose body stretched from the Solar System to Sirius, and who regarded our whole solar system as a single body; if he were possessed of sufficient analytic power and provided with sufficiently delicate analytical instruments, he might then distinguish sun, earth, and other planets, as constituent factors of that single body. If his sensational apparatus were proportionately coarser than ours, from the point of view of their perceptive powers, he would not even appreciate the solar heat, as such. It is, however, important to notice that, as a fact, the universe, as far as we know, furnishes examples of nerve-endings only under certain circumstances. Protoplasm and neural matter appear in tiny quantities, themselves merely portions of living organisms, which nestle under the protection of the overruling gravitation of the great planetary masses. This fact is introduced, because it bears directly on the original possibility of "free will," taken in any sense, which must first appear as "free" motion. What would be the free will of Society

Three senses in which a ball might be regarded as individuated: suitability to our special purposes; liability to easy separation from environment; capacity for acting as a whole.

existing in open ether, its members drawn together by gravitation, whether they desired it or not? So, too, consciousness is connected only with a small portion of the nervous system, and the higher life of culture and thought can only appear in the heart of a great commercial organisation, as is emphasised by Mr. Taylor in the "Problems of Conduct."

Contrast of
activity as a
whole of a ball
and of an
organism.

To return to the ball, there is a third sense in which it might be said to have individuality. It entirely consists of one type of substance. But if this were to be our criterion, the continuity of natural processes would soon introduce confusion in other cases. Again, it can be thrown as a whole, and this motion does not necessarily require an intelligent agent. The volcano will hurl stones in all directions, and a series of geysers might be arranged, so as to keep them for as long a time in motion as the "principle of life" can keep the *amœba* moving. This rather ludicrous instance indicates that there may, from a physical point of view, be nothing in vital phenomena which may not be paralleled in the inorganic portion of the universe by including collected instances in one whole from sources distant from each other, to *our* view. The fact that the protozoon, on encountering "food," encloses it could be put down to pure chance. The stone *might* always pitch on a fresh geyser just ready to explode. As certain thinkers inform us (applying mathematics, where they do not apply), if we give sufficient time, an universe will arise in which such things will actually occur. This view cannot be refuted, except by a thorough analysis of what is involved in the fact that we, who are parts of the universe, have a sense of purpose.

Conception of
physical
individuality
arises only
through our
arbitrary
perception of
motion.

Motion as a whole certainly affords the nearest approach to individuality which the ball can display. It is shared by the earth, for it is quite externally determined, but as contrasted, for instance, with the moving of a comet in the Solar System, the earth's motion has a less real individuality in one sense, because its direction

is not changed so easily as that of the comet. The comet, mainly ruled by the sun's attraction, but also reacting to that of Jupiter, is exactly paralleled by the stone, mainly governed by the earth's attraction, but also influenced by the peculiar chemically-derived forces of the volcano. If, on the other hand, there were only two bodies in question, their motion could not be altered from the course determined by their mutual gravitation. The molecules within the earth must have their courses frequently altered by the plurality of the attractions which they encounter.

Individuality is certainly suggested to us by the sight of frequent change in direction of motion, because this is characteristic of the living and sentient organism, but in itself such change merely results from the disparate or discontinuous arrangement of matter. The more numerous and *equally balanced* the attractive forces around, the more frequent the change of direction of motion in the case of the inanimate object, but the living organism flourishes and changes its motion only where there is an *overruling* attraction.

The contrast lies in the fact that the motion of the ball is determined by the *molecular* aggregate of its own and surrounding bodies, whereas the sight of the prey, *as a whole*, is the determinant in the case of the animal, which certainly has no apprehension of the atomic or chemical assimilation which will follow a successful chase. It is essential that, but for motion, we should not raise the question of individuality in connection with the ball at all. The ball *resting* on the ground would not produce such thoughts, save for the two reasons already dismissed as unimportant from a physical standpoint, namely, our knowledge that our particular type of muscle is strong enough to lift it, and that it will help to make a game of cricket. But a ball whirling through the air, in contrast to the stillness of the surrounding objects, produces an impression upon our minds, and this leads us directly to that further

distinction, which we believe to be not adequately expressed by the terms primary and secondary qualities.

Primary and
secondary
qualities an
imperfect
distinction.

Colours are often taken as typical of secondary qualities, and extension in space of the primary. These two are certainly on a different level, though of course this does not mean that the quality of extension in space is free from the illusory influence exerted by an imperfect mind. It will presently be suggested that the primary quality which may be most satisfactorily attributed to matter is essential plurality, although this is not put forward as a definition, since it also in a sense applies to mind. But it is a description which will be found useful, when we have reached the final stage of comparing the conceptions of ether, matter, and mind, which we shall have attained with a view to the investigation of the nature of the Absolute. For the present it is mentioned by anticipation, because only by contrast with a definite preliminary statement can the subject of the present chapter be brought into strong relief. In working out our method of circling round the various types of existence from three different points of view, matter, taken as plural, as such, will provide the innermost circuit. The real centre can never be reached by our minds, as metaphysics has often shown. The outer course was the consideration of matter from the point of view of the forms of the human mind. These were shown to be involved in and correspond with the activities of that highly specialised type of matter represented by protoplasm. On the one hand, these forms strike deep down into reality, for they literally are the "expression" of the activity of a portion of it, yet, till corrected by their own conceptual development in conscious scientific reason, they are sound indeed, as far as they go, but that is not very far. Such is the sensuous mental activity of the animal and the unreflective human being, secure but unaspiring. The innermost circle on the other hand is significantly given in mathematical terms, as the

plurality of matter. It is always the ambition of science to reduce its material to mathematical abstractions, by which its work would be perfected. Mr. Bradley also has laid stress on the fundamental doctrine that abstract mathematics, through being absolutely true, are farthest from concrete reality. Yet it will be seen how closely our outer and inner circles correspond. In the primitive sensuous stage the narrow but essentially searching activity of mind gives us a pure reality of its own, a many in one; but since it falls short of apprehending the Absolute, the underlying unity in its little perceptions can only be "potentially" or sub-consciously supplied. On the other hand, the innermost circuit will reduce matter to essential plurality, which is indeed true of *all* matter, but loses all practical reality in attaining this dignity, and can only bid us look beyond matter for the substance which it has destroyed, but which it yet finds logically necessary. This contrast has been drawn to show how completely metaphysics corresponds with the immediate intuition of the ordinary sensuous mind, if only its full bearing be realised, and if we are ready to accept the analysis of psychological science as to the character of that immediate intuition of the senses.

But we are concerned in this chapter with the intermediate circuit. The discussion of physical individuation (which is merely a more convenient method of dealing with physical existence) can be aided by scientific observations. A triple division, in fact, is to be substituted for the double distinction of primary and secondary qualities, the latter classification being, as usual, regarded as true, but not sufficiently precise when we come to deal with accurate material.

Scientific theory is less concerned with "material" processes than with chemical, physical, and physiological phenomena. It occurs naturally that ordinary terms drop out of attention, and in a specialist's treatise on botany, such general words as "grass" hardly find a place. But it is not true that for one general word

Distinction underlying the separation of physics and chemistry, though not absolute, is relevant to the metaphysical problems.

merely a vast number of subdivisions are substituted. Thus, if I look out on the Thames covered with craft I am confronted by a scene of matter both at rest and moving. But a man of science, before giving a detailed account of everything in this scene, would first subdivide into physical and chemical types of change or motion (for chemical change is "motion" on a small scale). He would then be satisfied to group all his subdivisions under these two headings. It is, however, certain that, for some scientific purposes, this distinction between chemistry and physics is not absolute; but it is sufficiently valid to be immensely preferable to a mere distinction between objects, on the ground that their sizes are very different relatively to our own bodies, or because, like the ball, they maintain a motion which is only appreciable to us on account of the special nature of our senses.

In the distinction between chemistry and physics there lies a difference fundamental for metaphysics. Physics deals with one force at least which is universally acting: chemistry deals with no such force. Gravitation, as far as observed, is continually more or less effective between every molecule in the universe, but chemical action is comparatively specialised and occasional. It is true that everything, even nitrogen or platinum, has some chemical affinity for some other substance. But, without contact (which may be taken as limited separation in space), the chemical quality remains "potential," and, even when displayed, is restricted in its range of application. Gravitation apparently is essential to matter as extended in space and as disparate, but the chemical properties which involve transformation can be for long periods in abeyance, and should better be described plainly as non-existent, but certain to come into existence under given conditions. The upshot of these observations justifies us in some degree when referring to the physical property as the existence, and to the chemical as a

quality. We are far from suggesting that the physical "property" can stand alone with the chemical "adhering" as a meek and subservient "quality," but we believe that it is not satisfactory when metaphysicians affirm that we can always regard the "existence" of apprehended objects as the "qualities," and reconvert them again at will. "Pure reason" might leave us with that impression, and it is for science to remove it. *Neither physical nor chemical properties are ultimately real, as such, but they are not on the same level even for metaphysical purposes.*

Some degree of justification for regarding the physical properties as existence, and the chemical as qualities.

This much, however, both of these types of activity have in common, that science brings them into existence in order to explain the motions or changes of the molar bodies, which are presented to us by our senses. Motion and change are the signals which matter exhibits, warning us that our apprehension of its existence, as matter, is incomplete. Men of science, taking note of this, proceed to reduce the objects to a state in which the entities which they assume, molecules and atoms, move in a particular manner. Thus they can account for the motions and changes of the larger wholes observed by the senses. There are two conceivable methods of avoiding the difficulties produced by our own strange position, as minds connected with bodies, which are *limited* aggregates in the material world. We must imagine ourselves so large that for us all material entities would shrink into one, as a nebula shrinks into a star at a great distance. Then we shall have existence without motion or change, and therefore nothing provoking us to explanation. Or again, we must become so small as to realise entities which explain everything, and then, as Boscovitch suggested, we shall have motion without existence. Men of science will not tolerate the latter view, yet the two are in reality *equally* absurd from a truly physical standpoint. But our minds necessarily objectify and stereotype the resisting existential aspect of a certain portion of the material world, namely, the body of the observer and not that particular motion-

Importance of the fact that physical existence is not found apart from motion, is obscured by the forms of the mind.

as-a-whole of the organism, which is, at first, the sole outward sign of mind. Mind objectified resisting objects, whether they appeared to be moving or not, for myriads of years of evolution before it objectified itself as an entity which had not the property of physical resistance, and, in consequence, we have the ineradicable conviction that the resisting aspect is characteristic of material existence rather than motion. Yet motion and matter are inseparable. Is there, as a fact, such a thing as an electron, atom, or molecule *at rest*? The one great material existence *at rest*, which we, as giants, imagined, is every whit as impossible as Boscovitch's mathematical centres of force, but our visualising imagery has been developed by the struggle for existence in a completely one-sided way. Rest is purely relative to our bodies; wherever there is matter it is disparate and in motion.

It is not intended to consider metaphysically the further question of the impossibility of even conceiving a *single* material entity moving through infinite ether, because in a recent discussion some men of science asserted that they are able to conceive such an occurrence. Psychologists know well that introspection, apparently so easy, really requires a special training, if it is to be of value, and metaphysicians believe that those who have spent their life in the study of the material sciences will not be specially skilled in this quarter. But it is preferable to take a different ground, as there are men holding the view that they can successfully imagine such a scene, and not *unconsciously* introduce somewhere the idea of another material point with which to compare the moving object. After all, the actually observed effect of the play of material forces is such, that the collisions and evolutions of systems always present us with a plurality of bodies, and hence we have the possibility and probably inevitable appearance of motion. When they cease to do so, it will be time to try to understand the new phenomenon. Otherwise we should be concerned with the same type of

useless problem as that of the pre-material infinite ether. There we put the question in a way that would admit of no answer, because unmeaning from the point of view of the actual reality of things. But we do not quickly realise that we are doing so, because we are unconsciously prolonging one side of our own present experience beyond its sphere. To ask about infinite ether and its relation to matter and mind is legitimate, for we actually know of the three types as co-existent, but we have no warrant for assuming the existence of any of the three, *as we know them*, apart from the other two. And this leads us directly to the essential point of the present chapter, for though we cannot form a picture of matter, as it existed before mind appeared on the scene, yet this unsatisfactory conception is very useful as illustrating the problem of physical individuation. If we are asked whether matter could have had "existence" before there was a human mind to perceive it, it may be said that mind cannot much improve the situation with respect to that problem, when it does at length appear. For, as we have pointed out, it certainly perceives material existence under an inevitably prejudiced form, which it can only correct by realising in conception, that a truly complete material existence involves more than mere matter. But we can answer with confidence that, before there was mind, there could be no such physical *individuation* as we are accustomed to recognise, and we may perhaps state in scientific terms that by which it was replaced. Men of science insist that there must have been something, while metaphysicians ask what it could possibly have been. I once saw a gorgeous picture representing the formation of the atmosphere. Fire, lightning, storm, deluges of boiling rain, were mixed in a mighty chaos. Did that scene ever occur? We must take it in detail. The contrasts of colour must have been absent, which are only possible in connection with the individuation of objects such as we see. The essence of this optical

Problem of the meaning of the existence of matter in geological epochs, before mind arose, so as to apprehend it.

individuation depends on the comparative invisibility of the air to our eyes, from which arises the crude notion of empty space. Of course it is absurd to ask if anything was *visible*, if no one was present to see it. The sense of resistance follows the same analogy: to very weak beings air would be as impenetrable as iron is to us. What, then, of the various physical and chemical forces which would have produced that wonderful scene? They, at any rate, are not dependent on our eyes, for what savage is aware of the physical and the chemical? He knows that the wind blows, and that his meat, if not eaten, will putrefy, but of these forces and the scientific distinctions concerned with them he knows nothing at all. He takes little heed of the changes of matter, but evidently men of science have advanced a step nearer reality, in describing matter under terms which take account of the object presented, not only as existing or resisting, but also as changing and moving. The latter aspects are often disregarded by the savage as being unaccountable, or due to supernatural caprice, but it cannot be too strongly insisted that motion and change have as much right to take their place in the existence of the material world as that "solidity" and resistance which appeals so strongly to the mind still in the trammels of biological evolution. For the attribute of material change can hardly be included in anything, save the material world, even though it may give warning that the latter is an abstraction, if taken alone.

It is right, then, to insist that we cannot dismiss the chemical and physical activities, as we discard colour and sound. For they do not appeal necessarily to our senses at all, but often a combination of them, for instance, produces an effect, which lasts in our eyes after they have ceased to act physically. Men of science, therefore, rightly insist that, whether we are present or not, these forces are working, and scornfully add that they are even responsible for the production of the proud mind, which denies its parentage. Yet

how are we to represent them in the primeval scene? Sometimes they act between our familiar objects, and these objects, we say, were not individuated, as such. Can we then truly realise what could be meant by mere interaction of colourless electrons, which are also incapable of division? But we have fallen into the error of assuming that matter and ether without mind are intrinsically the same as when differentiated from it. And matter may not have been finite and disparate, when ether was not infinite, for without mind we can show that both terms are most ambiguous in meaning. Yet as there was a differentiation (since for science matter had a beginning, while ether did not, as far as can be seen) there must have been interaction of some type. But matter as a whole interacted with ether, neither type of existence being what it is for us. This interaction was of such a character that a mind, acting under our "forms," if suddenly created, could only apprehend one aspect of the whole process as due to the effects of that which we know as gravitation and chemical action. If it be asked how such action of matter as a whole could possibly be represented by the forces which we now apprehend as acting between its portions, it may be answered that to the sense organs of a very tiny being, commensurate in size with a molecule, the heat of a red-hot coal, for instance, which actually comes to us totalised as an immediate *sensation*, would be replaced by the serial perception of the *motions* of the coal's molecules. But it is not denied that the conception of matter as originating *later* than an assumed *eternal* ether is metaphysically unsatisfactory, and that there are objections to taking the pre-mental differentiation of matter and ether in any sense literally resembling the usual conception. It is not, however, essential to the present question to work out this point. It is only important to maintain that the chemical and physical forces must have been already *active* in the Absolute or totality of

Mind, as it is in us, deals rather with the individuation than with the existence of matter.

all existence, though not necessarily *actual, as such*, whereas colours were wholly non-existent. We may give a parallel to this conception, from the last chapter, in which the activity of the forms of the mind were shown to precede the mind, if we regard the latter as differentiated in any intelligible sense as the entity observed in introspection. The mind was active, though merely potential, taken as differentiated mind. So also in this case existence as a whole was such that to developing mind it could only appear as having been evolved by the physical and chemical forces. But these forces themselves are ultimately only realised as such through contrast with the special effects of vital and mental activities which had not then arisen. For the beginnings of science lie in the observation that nature essentially acts in a manner dissimilar to the ways of man, while the savage especially assumes that the more striking natural phenomena are directed by a personality. There were not, indeed, before the advent of mind, chemical and physical forces between the individuated objects, because the objects and the atoms postulated to explain their changes were not thus individuated at all. But there were modifications in the totality of existence which must necessarily appear as forces between material objects as soon as the further modification of vitality is evolved, and becomes capable of presenting a contrast with the earlier activities.

Chemical and physical forces are representative of different degrees of material organisation, which seems synonymous with degrees of material existence.

We may also consider the manner in which men of science state the meaning of chemical and physical forces. Most of the physical forces are connected with the qualities of the molecule. "Single" molecules may be separated from a large aggregate or main body by a distance appreciable to us, and can probably be found moving beyond the outskirts of the atmosphere. Such, at any rate, is the explanation of the general absence of certain elements, like hydrogen, in a free state from the terrestrial system. The only test of the "independence" of a molecule is its freedom from being carried away in the general motion

of a larger whole. Though it may be uncommon for such a molecule to be found independently of large organisations, such as the Solar System, yet such an occurrence is evidently possible. On the other hand, except in certain transient stages, the atom is not found alone, but chemical change is explained on the theory that the system of atoms, which compose the molecule, can be upset by the forces of certain other systems, which also compose molecules, so as to unite and form new combinations. It is not certain to what extent future science will confirm these views. But it does not seem likely that it will abandon this general method of explaining natural changes, and it is the method only which is important in the metaphysical problem of material existence, which we are treating as the question of physical individuation. We maintain that there is a new type of objective individuation implied in the necessity of splitting up familiar objects into organised units upon a *definite scale*. In order to elucidate some changes, smaller units are needed than are postulated for explaining others. Chemical action splits up the molecule, electricity, perhaps, the atom, and our senses do not give us the least hint of either of these entities. Here, then, is a physical individuation, which is not indeed free of the influence of mind, but yet is on quite a different plane from distinction by colours and sounds. Water solidifies into ice, and this is physical change, but in the Thames steamers the atmospheric oxygen is acting *chemically* with the blazing coal. Here are two essentially different examples of change, but our sensuous modes of apprehension, the forms of our mind, merely mark the fact by quite irrelevant and misleading information. New colours and sounds are produced for their apprehension, which are impartially distributed between chemical and physical phenomena, and have nothing essential to do with either type. It was by quite a different road that the important theory was established that a separate refine-

Molar changes would never have suggested this distinction to the eye.

ment in the conception of material existence is required. The two types of molar change, which often in outward appearance both present similar aspects, have completely different origins according to scientific research. This difference is also expressed in the remark that the conservation of energy is the basis of physics, but the conservation of weight lies at the foundation of chemistry. Weight is a gravitational term ; chemistry, therefore, implies physics, but physics does not imply chemistry. We require a system within a system for one purpose, but not for another ; thus it seems that matter is a type of existence which acquires characteristics in some sense truly different, when organised at a certain stage of complexity, or as a "higher unit." And these characteristics are not displayed at other stages. Of course there is no such thing as a mass of matter, which has not both the physical and chemical characteristics in various forms, unless indeed the electron during the limited periods, when it is found alone, could not *ipso facto* have chemical qualities. Such possibilities would illustrate our metaphysical position, though not actually essential to it. Matter, as we know it, is of such a character that it instantly tends to associate its smallest components into organised systems of balanced forces, namely, atoms and molecules. We have therefore a sufficient ground for asserting a genuine physical individuation of some kind when we see that one system, the molecular, can exist separately for a longer time than another system, the atomic. It is indeed only a relatively separate degree of individuation, as the word "time" will at once suggest to the metaphysical mind. But we have also the fact that systematisation on a larger scale has not proceeded beyond a certain point, namely, stellar organisation, and seems unlikely to carry on the process. It is, moreover, enough for our purpose that the scientific mode of making distinctions in the organisation of matter depends on the exercise of "reason," and not on the arbitrary individuation by the

"senses." Highly ambiguous as these latter terms are, they at any rate represent some real distinction in mind itself. A skilled metaphysician could show that our individuation might be represented as subjective, like everything else. But there would still remain the distinction, though placed "within the mind," between the activity of reflective reason and direct sensuous intention which would suffice for our purpose. For the essential point of our contrast would remain : the opposition of characteristics accidentally due to a particular evolutionary career, and a standpoint consciously cosmic in character.

Reason has indeed been developed in reference to a physical environment, and it would be strange if it did not correspond with some degree of existence in that quarter. And men of science would possibly shrink from basing all materialistic views upon the electron corpuscle, which is logically the ultimate reality from the sensuous point of view, since the period of the independence of that entity is so singularly limited. There is also the further possibility of the future dissolution of matter in ether. Such apparently is the drift of "the Unseen Universe." We observe, however, that other physicists deduce from the radium experiments the possibility of a concomitant recreative process. In consideration of these difficulties it has seemed preferable to discuss, for the present, physical individuation rather than physical existence. For the word "individuation" will not appeal to those many hidden, but unjustifiable, assumptions so deeply obscured by the myriad years of evolution, during which many logical inconsistencies have not been of such a nature as to injure the animal's chances of survival. We have an archaic "*sensuous*" apprehension of "existence," but no creature ever *thought* of "individuation," as such, before civilised man appeared. The burden of prejudice, of which to unload the mind, is therefore less portentous. It may be hoped that the picture drawn of pre-mental matter has illustrated how much more satisfactorily the theoretical individuation

The electron, as ultimate physical existence, is dubious, hence the advantage of discussing physical individuation rather than existence.

of science, by degree of organisation, serves our purpose than degree of existence, as *sensuously* apprehended.

We have, then, three modes of considering the material world. There is the naïve individuation of objects and colours by the senses. There is the individuation by chemical and physical forces which is postulated by the experimental reasoning of scientific research in order to explain the arbitrary molar changes observed by the senses. But the term "physical existence" is reserved till we can undertake the third mode of treatment, which compares matter as a whole with mind and ether. For the present it is desirable to contrast the first two modes both analytically and in reference to the development of our senses and general mental activity.

It has been said that metaphysics cannot afford to overlook the distinction in the universe which has actually given rise to the separate sciences of chemistry and physics. While we are considering the material world taken alone, it is by this distinction that we are nearest to that will o' the wisp of philosophy, the "thing-in-itself." To say that the sun is visible is scarcely to be using terms of physical science, but to consider how the sun is acting electrically on the earth is another matter. Both sun and earth are objects of our arbitrary vision, and hence the value of our apprehension of them, as *existing*, is, so to speak, depreciated beforehand. But the apprehension of them as *active*, though inevitable, has not been made prematurely *definite* by our senses, and hence rendered wholly untrustworthy. It is by consideration of the latter aspect of matter that men of science penetrate deeper into its nature. Imagine the air to be visible, and the world familiar to our minds vanishes. It is only by courtesy and habit that we regard London as the same in a yellow fog. Visibility and tangibility cease to have a meaning unless there is both something visible and something relatively invisible, and similarly with the sense of touch. But neither visibility nor its opposite are material qualities at all.

Our familiar objects, as such, are conceived in terms of visibility, and before mind's advent visibility had no meaning in existence. But this fact cannot deprive the objects of their ultimate existence. It simply indicates that they were not especially individuated, as they are to us, and that the differentiation into material existence was unnecessary, together with its physical and chemical forces and changes (for by the latter mind fills up the gap produced by its incompetency to apprehend existence in full). Existence was perfect in every sense, because there was no mind evolved in a limited body such as to blunder over the apprehension of reality by regarding parts of a continuum as though they were separate finite wholes. The ultimate results, indeed, of this doctrine of the essential blundering of mind form the goal to which this work tends. Forces and motion mean change, and the apprehension of change is a tacit admission of failure to realise the whole nature of existence. This last theme has been worked out in the abstract by Kant in the *Critique of Pure Reason*, and is only introduced on this occasion in order to illustrate the difficulty of pre-mental matter. Mind, as it were, throws an apple of discord into existence, and afterwards has to use makeshifts to override the confusion, rendered inevitable for the future, which it first produces during the animal stage of its evolution, when it is pursuing merely practical aims. It tries to imagine material existence in its own absence together with these makeshifts, namely, forces and motions, which only its own perversity has made necessary. Yet the makeshifts were indeed active, but not as "material" forces, because existence was not merely that material existence which we know, and to which forces and motions are as essential as an *imperfectly* apprehended world is to them. A pre-mental colour is obviously absurd, but what would an "object" be like without a colour? For black is "no colour" only in contrast to others. Or can we conceive the nature

Mere apprehension of changes, forces, and motions is a tacit admission that existence is not fully grasped.

of a single colourless electron, which must not be conceived as capable of being divided? Or what, under such circumstances, would be meant by the resistance of an electron to the tactile sense, which we might think is usually the touchstone of reality? Even when mind has appeared we have to postulate an entity, the ether, which neither resists nor is visible.

Material forces change the colours, but the colours never change material forces. We say (somewhat illogically in one sense) that a plant is green because of the presence of the chlorophyll in it; we never affirm that the presence of that chemical substance is due to the greenness of the plant. We see that colours and sounds, as such, have nothing to do with the changes of the objects around us, and it is by this test that we instinctively recognise physical existence. This test is not in reality satisfactory by itself; for it merely arises from the fact that the object, which moves, is usually that to which the animal had better pay attention, if it desires to survive. More important still is the "solidity" or power of resistance of the external object to our physical frame, and this quality consequently always stands for "existence" to the primitive mind. But the colour, if abstracted from the "solidity," does not make the least difference to the struggle for existence; only in combination with solidity does it help, by being *significant* of an object, which may presently use its teeth upon the observer. It is therefore important to consider the physical concomitants of colour, for though colour makes no difference to material activity, we know that certain material conditions are necessary to its production. By contrasting these conditions with those which are necessary for chemical and physical change, the meaning of physical individuation may be further elucidated. It is not necessary to enter into that more refined individuation which is established by the fact that elements have different specific gravities and other such qualities. It is not important to deal

Contrast between physical individuation by theory of molecules and atoms with individuation of familiar objects by colour, sound, etc.

with the terms in which men of science describe the molecular system with a view to elucidating the differences between the specific gravities of the molecules which are due to the number and form of their constituent atoms. For whatever the details may be, they merely tend to strengthen the evidence necessitating the hypothesis of another system within a system to explain changes, as is the case with the distinction between chemistry and physics. It is sufficient for metaphysics to recognise this broader individuation in matter, under which specific gravities are acknowledged to fall. The position with reference to colour and sound is quite different, and must now be separately considered.

With adequate heat or pressure any two material entities can perhaps be theoretically forced into chemical union, and, given the right distribution of certain objects, any colour can be transformed into any other colour. This shows that physical individuation is never absolute. The individuation lies in the fact that, whereas the physical activity involved in gravitation is *actually* universal, we can only say that any given chemical action *may* at some period be produced. With sufficient skill of combination it seems that any one material entity might be transformed into any other, now that our faith in the stability of the elements is shaken. It is apparent that the dream of the alchemists is now theoretically possible. Much of our ordinary individuation results merely from the comparative difficulty of effecting different transformations. But it would be self-contradictory for all chemical activities to be actual simultaneously, whereas with gravitation (owing to its probable connection with ethereal activity) this event is perhaps universal. Hence, though none of these activities are ultimately real as such, some deserve a different treatment from others. We are merely developing the doctrine of the degrees of reality, which has become characteristic of abstract metaphysics.

But our senses at least play a decisive part in the

Dependence of
individuation
by colour, etc.,
on our particular
sensuous
evolution.

production of colours and sounds, and we must therefore consider the origin of the former. No one could have made the most superficial study of entomology without his ideas on this subject undergoing serious modification. We are forced to attribute to insects capacities for sensation which have but the faintest parallel in our own nervous organisation. The world to some insects may be apprehended in a manner not very incongruous with our fabulous pre-mental individuation. On the other hand, bees, ants, and others seem to have developed powers beyond our own in certain directions. It is probably truer to say that sense-differentiation has not always taken the same course. Do the ants recognise each other by smell? Partly so, perhaps, but the observed facts are not wholly covered by this explanation. What of the sensitiveness of the antennæ with their somewhat mysterious functions? It is important that we should not regard our own sensory activities as summing up those of the animals, and theirs as merely deficient in some respects. It is more satisfactory to regard man as highly specialised in certain directions. The sense of sight is, of course, *facile princeps*, in the material world. It has a real claim to this position, for it alone can use as its medium the infinite ether, in contrast with which the material world is finite existence. Its possibilities are therefore by far the most extended. Next to it comes sound, utilising the all-embracing atmosphere. Taste, smell, and touch are very limited in comparison, and hence cannot give rise to "fine arts." It is, however, well worth while remarking, even at the present stage of our work, that this superiority of the eye over the ear may be otherwise counterbalanced, and does not necessarily imply the supremacy of painting and sculpture over music. This is not said as a partisan of the latter, but with a view to illustrating that side of mind which is a blank from a purely physical standpoint. Sound is not localised in space, except to some extent by an apparatus which is external

to the ear. This very deficiency is transformed into a source of strength by the musical creator, for there is thus, perhaps, a greater scope for indefinite suggestiveness, and it is in this direction that modern art as a whole seems to tend. It is also significant that music, as a highly developed art, comes latest in evolution. This type of distinction will presently play so important a rôle, that it is not altogether out of place anywhere.

Our senses were not evolved with reference to music and painting, but to the struggle for existence. Vision and audition for this purpose are about equally valuable as improvements on touch, whose information would generally be too late to be useful in the struggle. Yet touch is the supreme criterion of reality at this stage of evolution, for through touch pain is inflicted. It is only later that the mere sight of actions and things in special relations can torture the mind. The animal, however, must see that its body is not touched in certain ways by certain other objects. It is at once apparent that many of the forces of nature have no bearing on its problem. Everything is affected by gravitation, and in consequence there is no need to develop a special sense in order to appreciate it, were this possible. The sense of orientation appreciates rather the results of gravitation than that force itself. If we hold up our arms, we appreciate inter-muscular effects due to gravitation, but we do not feel the earth itself pulling us down. Such a sensation would be of no value to us. We only feel a rush of the wind if we fall over a cliff, and the smash at the bottom is sufficient warning not to walk out into the air again. The *amœba* in its water medium is never in such a predicament. The body must be of a certain specific gravity, or the resistance of the air and water will protect it from such eventualities. Similarly there is no specific sense of electrical action. Lightning does not often strike organisms, and otherwise electricity in nature does not bear upon the struggle for existence save in a few

The senses respond only to certain of the physical forces.

cases, such as that of the electric eel. Magnetic action is equally irrelevant. Yet often in the end these rejected agents, when appreciated by the scientific mind, prove to be the most powerful allies. If civilised men were forced to fight for sheer existence against barbarians, ignorant, but overwhelming in number, a well-planned snare of electrified railings could hardly be improved upon as a means of salvation. Thus the colours and sounds are built up on the particular nature of the senses, and we have in consequence a new characteristic externally bestowed upon all material existence, but avowedly based upon a particular aspect only of the forces involved, whereas the apprehension of physical and chemical forces, as such, is indeed inadequately bestowed by mind upon matter, but is based upon an impartial analysis of *all* the facts and *all* their changes.

Illustration
from a crimson
rose. All parts
of the universe
contribute to its
apprehension.

Let us consider the actual process of the appreciation of an object such as a rose, as coloured. We require a body, such as the sun, in a condition which will produce the ethereal waves of various types, which are known as heat waves, light waves, and the like. The rose is presented as coloured according to its selective power on the solar rays, but the particular waves which play the part of "light" only do so because they will display objects dangerous to us in relief. Suppose that our bodies remained such as they are at present, while our eyes suddenly ceased to be capable of appreciating any ethereal vibrations except X rays. A living tiger might be presented as a skeleton, or, even worse, might not appear at all, and we should be little suited to survive in the struggle for existence. We may notice also that for the production of colours and sounds, at least three entities are usually concerned, the object, the medium, and the sense-organ, a particular condition being also requisite in each case. Thus is indicated the increasing complexity of the processes which mind is prepared to totalise in the stereotyping of a single entity, such as the rose. So, also,

Only combina-
tions of physical
entities are
appreciable to
the senses.

in this case we have an example of totalised apprehension, followed by immediate stereotyping. Sun, ether, rose, retina of the eye, and "mind" all play a necessary part in the production of one object for our mind, a crimson rose. What a bold selection from every part of the universe! It is not surprising that men of science refuse to admit colour as a material quality when it involves so much more than the material world. Ordinary sensuous mind is indeed a feminine thing of caprices; it insists in having some share of everything, but is punished by getting the reality of nothing. Of this, however, it takes no heed; by its unique totalising power it makes a guileless whole of the strange mixture, like the witches' brew in Hans Andersen that was poured out as clear water, and finally the result is stereotyped in that material sphere to which mind is most accustomed. *Ars est celare artem*. A single ethereal wave is nothing for mind, which must have millions before the magic transformation can begin, and thus again is illustrated the impossibility of mind's appearance, as we now know it, except as connected with a *considerable* aggregate of matter.

We have now given an account of the different types of physical individuation. Physical objects, whether considered in relation to the forces and changes which they exhibit, or in reference to the colours, which cannot affect their nature, so far as it is merely material, must be seen or pictured in imagination, as totalisations stereotyped by mind. With regard to the elements, which cannot be pictured at all, as in the case of the "forces" and "motions," we are indeed nearer the reality of matter, as far as it has such an essence, taken alone, and the successes of science prove the value of the approximation. But we are always mind, and never the Absolute; hence our perverse nature takes revenge on our aspirations by forcing us to talk nonsense in the moment of success. Such must be any description of pre-mental matter. We try to be *absolutely* impartial,

and presently we lose all meaning. For our conceptions must be based upon perceptions of the senses, and eye and ear are hopelessly feminine in their partiality, as we have shown. Yet the instinct of impartiality lies at the root of both science and morality, and it cannot be said that these have not been valuable to man.

If it now be asked : What is to be said of the reality of our familiar objects? we must answer that they owe their individuality to three causes. We desire to use them for some purpose of our own. In actual aggregate of material they approach near to the sum of the molecules of our own bodies. Again they lend themselves as suitable receptacles for the mixture of materials and activities which mind levies from various parts of the universe in order to objectify them in one whole. For this purpose they are suitable, because, to beings composing a certain finite part of the universe, they were, originally, the objects of which the animal had to take account in the struggle for existence. On the mental side that struggle warped mind for ever into a partiality which Nature does not recognise.

What, on the other hand, of the reality of the individuation of the atoms of science? The sensuous partiality is now evaded, but not the forms under which mind apprehended its familiar objects, namely, existence and motion. The atom or electron is always moving, and the motion is confessedly due to external influence. Therefore the existence postulated is not complete. If we could imagine an atom of matter which somehow did not tacitly suggest the idea of surrounding space, and was also at rest, that atom would be a true material individual. But there can be no such thing. So long, therefore, as we think of Nature as a world in which there is both existence in motion and existence at rest, the electron should be regarded as the sole ultimate reality. And this is the only possible Nature, if taken separately as such. Even so it does not escape from the influence both of mind and ether. For gravitation,

Comparison of
the crimson
rose with
molecules and
atoms.

which involves motion, requires ether for its working. But this Nature of science does at least explain its own changes, wherein the Nature of artistic beauty fails. If there must be mere continuous change at all—and that is incompatible with logical reality—the next best course is to be able to predict the changes. Observation of colours would never enable us to achieve that result. It is change which usually affects our own prospects, and, in consequence, we lay stress on that scientific faculty of our minds which is concerned with these changes. By that faculty we affirm that predictable change, which is also in the main dynamically independent of us, is the test of true apprehension of external reality. Yet there have been men who were mainly interested in “poetic truth.” The electron gives us the final truth about one aspect of the universe, and that is an aspect which we cannot disregard. The crimson rose gives us the truth about nothing, but gives a hint of everything. When the poet said that if we knew all about the primrose in the crannied nook we should know all the truth about God and man, the fancy was literally true. For it has been pointed out that the crimson rose involves some intervention from every quarter of the universe, and it has long been known that the whole state of the universe is ultimately responsible for any given result. But the single electron resolutely divests itself of everything with which mind must clothe a material entity. It cannot therefore be pictured in imagination, for not being a collection of atoms, it could not, for instance, have a colour. But the electron is indeed a material individual, if that means to be free, as far as possible, from the influence of mind. It has repudiated the power of telling us anything about the universe except a certain sequence of changes. It is a thorough specialist, and should have the specialist’s credit. The rose, on the other hand, as all humanity knows, may suggest anything to any one, but can suggest, for certain, some one thing

Superiority of the atom, in so far as it “explains” the observed changes, but change itself is a confession of failure.

to nobody. But most certainly it will not "blush unseen." If there is no one to see it, it is part of a concatenation of changes (according to our imperfect apprehension) which will produce other flowers with happier destinies. And the individuation of the changes is greater, taken as material, than that of the colours, for the former will be active when they are not explicitly actual. But a colour is actual, or else it does not exist at all. While there is the possibility of a differentiated material world there is a series of changes. Change or motion is part of its nature, as men of science have always observed. Therefore that which stands for material change apart from mind will be effective, even though it cannot be called material change, because we cannot conceive the latter apart from colour. Colour cannot be taken from existence and motion and leave their "being" the same, for though we may mentally abstract the latter as mere existence and motion, they are in reality essentially bound up, as such, with colour itself. Without it they cannot be thus differentiated at all. Thus we may say finally that colour is actual but never active, as far as effect upon the purely material world is concerned; as colour, it only affects the poetical aspect of mind. Physical forces are always active, whether they are actual or not, in so far as they are exhibited in the motion of molar masses to a human mind. Men of science, therefore, rightly insist that the individuation which the electron represents is a truer one, if we are to admit mere Nature at all. For, whereas colour is *non-existent* without mind, forces and material existence, as such, are merely *undifferentiated* from each other without it; their activity in the total existence of the Absolute is unimpaired. Let us imagine three objects, the electron, the rose with its colour abstracted, and the crimson rose. Of these the first gives all the truth about material Nature (though mere Nature is ultimately bound to contradict itself on metaphysical

Physical forces
can be active
when not actual
as forces ;
colours are
actual or
nothing.

grounds); the second is nothing, the third *hints* of the whole universe, inclusive of Nature. But the individuations of science must not be disregarded by metaphysics. Nature, though ultimately self-contradictory, is at least less completely so, in one sense, than the mind of the metazoon, for instance, which apparently is active as prompting teleological action, though it has no existence as a differentiated mind at all. The fact that in Nature a further degree of systematisation involves a specialised set of qualities has a real bearing on the problems of the universe. In connection with our future reasoning on mind, it may throw more light on the nature of the Absolute, and particularly on the human apprehension of that late product of evolution, as God. Further consideration of the essential meaning of material existence-as-a-whole must now be postponed to the chapter on ether, matter, and mind. For it can only have a full meaning, as contrasted with some other defined type of existence, and mind and ether alone remain. Of the latter we know little; of the former, perhaps, too much to be contained in a useful formula. We must now enter upon its consideration. But we may, by this ultimate comparison, at least avoid that kind of useless reiteration about the nature of matter which gives mere paraphrases, "impenetrability," or "existence in space." Such a description is of no value because penetrability, or non-existence in space, is simply without meaning when applied to the other type of existence, namely, mind.

It will, of course, be understood that we are not concerned, for metaphysical purposes, with such problems as the separate "individuality" of phagocytes, spermatozoa, and similar objects which biologists sometimes discuss for their own purposes. Separation in space and function is clearly no exact criterion. But whatever definition may be given of biological "individuality," it is clear that it is not relevant to our discussion of "physical individuation."

From Nature's point of view the atom is the truer individual than the crimson rose, which latter results from our own ambiguous position.

Result—Degree of material organisation exemplified in chemistry and physics, approximates nearest to physical individuation and is relevant to metaphysics.

CHAPTER IV

THE PRINCIPLE OF LIFE

The subject considered as one aspect of the problem of mind only.

THIS title, which might seem to suggest an intrusion into the sphere of the biologist, introduces an aspect of the metaphysical problem of mind. For, if the difficulties were great in approaching the problem of matter, they are trebled when our attention is turned to mind. We are not especially referring to psychology, as though it surpassed other sciences in the stubbornness of its obstacles. It has peculiar difficulties of its own, yet also peculiar advantages. But it is possible, for metaphysical purposes, to consider mind from several points of view, and, when that has been done, it is hard to organise the results. The titles of the chapters which deal with such a subject must at the best be somewhat arbitrary, yet a division must be made in order to avoid confusion. There are two obvious headings, the activity and the existence of mind. Plainly these two are the same, and yet, taken in a certain manner, a distinction can be drawn. For now in some sense my mind is acting on this rose, or otherwise it would not be crimson to my senses, but shortly I may be again pondering on my own reflections as to the difficulty of organising this work. On the latter occasion mind is also active, but, in some more specialised sense, it is acting on itself, and hence this process might be marked off as belonging to the sphere of mental existence. There will also be involved the problem of psychophysical interaction. But, again, mental existence can

only get a cosmic meaning by being compared with other types of existence on some common ground, if there is any such. Mind also in the amoeba is something different from mind in man, and since it is still developing qualities as evolution proceeds, the genetic formation of mind may be as important, even for metaphysical purposes, as any other aspect of its existence. We must therefore avoid this treacherous term "mind," and substitute for it the various graduated types of action and reaction which are found in the universe, with the view of contrasting the principles on which they work. We must, of course, continually mention the word "mind," but never as a thing defined and understood, until the final comparison is made between the various modes of action and reaction, which are exhibited, respectively, by all entities, which are not the Absolute. For "Mind" as it appears in the universe in all its aspects must be regarded as many-sided. There is the self-conscious stream of introspectively reflected-on thought, and the stream of thought and sensation of the animal (which is certainly *active* like the pre-mental "forces of nature," but, for aught that can be observed, does not *exist* as a differentiated mental entity in any sense). Again, there are the sub-conscious processes in the human being, influencing and influenced by the conscious stream; these, after the appearance of self-consciousness, cannot be identified with an animal's unreflected-on stream of thought. Also the physical nervous system and its potentialities bestowed by evolution, prior to the conscious or unconscious stream of the individual, are ultimately involved. It is not, therefore, surprising that we hear so much discussion as to whether mind is coeval with life, and as to what is meant by the "sunken soul" of a tree. We must temporarily abolish mind, and if we are to be accurate, we shall only introduce it (taken as a *separately* differentiated entity, observed in psychological introspection) as the self-conscious stream

Ambiguities
of the existence
as opposed to
the activities of
mind.

of thought, when mind at length is of such a nature as to be continually recognising itself as mind. Otherwise, an animal may be acting reasonably, and exhibiting human, and even moral feeling, but unless it can recognise its processes as such, it is difficult to see that it exhibits the new entity, which we know, as self-conscious mind. Before this stage of introspection the animal is best regarded as merely matter, acting according to certain new relations with the remainder of the universe. Matter may ultimately involve even more than self-conscious mind, but at that stage it has not actually produced as much. When Descartes described the animal as an automaton, the only error lay in not defining that word with reference to the distinction of teleological activity and mental existence, the former being certainly present. The animal, indeed, does not act as an automaton, as lovers of dogs so eagerly prove by exemplifying again and again the "reason" and "morality" of their pets, but, however the dog may *act*, it does not exhibit a separate entity which we may safely term "mental," for that term can only be applied satisfactorily to the stream of thought and feeling recognised as thought and feeling. Unless it is so recognised by its possessor, we are simply reading our own exact condition into animals because their actions are very similar to ours. By their fruits animals are not known psychologically, but surely misunderstood. By the term "recognised" it is not necessarily meant that we must be always consciously thinking of our minds as mental, but must at least *practically* treat them as consciously differentiated from the "material" by the tacit testimony of our languages and customs. For human beings do not always exhibit the self-conscious stream. Mind is far more often implicit than explicit, and continually compresses out of consciousness many of its own steps. It is possible to be thinking of our thoughts or memories, but not thinking of them as thoughts. The coloured images of the material world

usually take their place, with us, and nearly always in the case of animals. Now, as I think of my thoughts, I *am* "mind"; now, as the crimson rose catches my eye, I am not. *Consciousness*, in fact, is only to be recognised as mind in so far as it is capable at any moment of becoming literally *self-conscious*.

It may be said that we are absurdly narrowing the meaning of mind. The accusation would be justified if the stages that lead up to the self-conscious realisation in the "conscious" stream were to be omitted. But the apparently gratuitous distinction will prove of importance. Either the *amœba* has a mind or there is no mind, except when we at length think of our own minds. Mind is *fully* created as mind in the act of apprehending itself, and having done this, it stereotypes its most introspective moment as its ordinary condition.

We indeed *practically* are "mind," because we ourselves know, and our language tacitly proves, that on receiving a suitable stimulus of suggestion, we can at will, or at the slightest provocation, turn introspective, and straightway create ourselves as differentiated minds. But we are no mental entities, if taken as differentiated both from our material being and external matter, until we gradually create ourselves such by realising what we implicitly are. For such is the character of mind, which exists only in making the potential actual. "Spirit" and "body" are rarely separated, even in appearance. A human being might theoretically pass through life and never be actual mind; possibly with some savages this is almost the truth. Exhibition of the highest morality in action does not necessarily involve mind as a separately existent entity, though as a rule the moral struggle soon produces introspection, implicit or explicit. It has long been felt that by pain we learn our "true selves." We are merely extending this principle.

Those who are dissatisfied with this sweeping demolition of animal mind must reserve their judgment till they have seen whether it will prove

For mind and matter temporarily substitute and analyse the activities of the various grades of physical objects and organisms.

Thus we avoid the necessity of dating the beginnings of mind.

useful. That is the supreme test of any method of scientific treatment. If it can relieve us of the necessity of arguing how far down the scale of evolution the entity "mind" may be found, and thus enable us to judge all grades of existence purely by the activities displayed, then indeed by their fruits they may be known. But if we begin by judging them according to their teleological activities, and presently refer tacitly to their mental existence, only confusion can result. From amoeba to man, a totalising principle is *active*, but so far are we from claiming to define its "existence," that we shall finally show that it is far from being fully explicit and *actual* even in the highest human being. But it is *active* in varying senses all the time, and, provided that we do not fall into false analogy between these different significations, mental activity will be our trusty watchword to save us from the snares of "mental existence." The final metaphysical question as to why activity is more useful than existence need not be raised at present. Mental activity is likely to occupy our attention for a considerable period, for it is difficult to maintain a consistent phraseology on that ground alone.

Are life and mind separate? We can only refer to scientific observations, and examine, according to our stated method, actually occurring processes of vital activity in scientific terms. We must avoid the meaningless and stereotyped abstractions of popular creation, life and mind. Some biologists have been of opinion that the vital processes may ultimately be described in terms of physico-chemical action. This view is not, however, fully established, and Professor Hering warns us that there is at present more danger of a premature and inadequate statement of life in chemical terms than of resting blindly in the unmeaning hypothesis of a vital principle. The term "principle" is strictly one of the most unmeaning in our language, though it probably stands for a very important type of

Life as a certain
series of
chemical
activities.

fact. We certainly cannot admit it uncriticised in a metaphysical work. It therefore remains for us to collect the descriptions of scientific observers and consider them for our own purposes. In this connection it may be desirable to mention Pflüger's view (1875) of the origin of protoplasmic life. This author regarded the appearance of protoplasm not as the culminating point of an evolutionary series of non-living proteid substances, but rather as a primary event, the result of some incompletely understood molecular concatenation, in which the cyanogen atomic group took a prominent part, and from which the simpler proteid and other organic molecules are to be regarded as primarily derived. Of course no criticism of this view is suggested, but it may be remarked that it must appeal strongly to the psychologist, who sees it paralleled in his own science. Consciousness and the sub-conscious processes are thus differentiated in contrast to each other from an original entity, to whose "mental aspect" it would be hard to give a name. But we must notice that it is not vitally relevant to the present discussion whether life came into being according to the statement of this view or otherwise. The vital relation of the organism to the external world, whether gradually or suddenly appearing, is at all events a new type of relation, and this is sufficient for our purpose.

Though we do not know in what life consists, we know that it is subject to a change, death, after which it is never renewed, and the vital object becomes merely one of those physical objects whose individuation we discussed at length in the last chapter. It is only by a comparison, conscious or unconscious, that we can give meaning to the definition of any entity, and we will now proceed to compare the living organism with the familiar physical objects. We know how the latter were individuated, so far as they were individuated at all. They had practically no individuation that was worth much for critical purposes. Physical individua-

Vital individuation contrasted with that of the ordinary objects of the senses and that of molecules and atoms.

tion at its truest was not to be found in the familiar objects at all, but in the atom and electron. Now, however, we have another kind of familiar object, with more serious claims to individuality, which lead us to suppose that the familiar physical objects borrow their spurious individuality from the living organism. We cannot say when a hill ceases to be a hill while it is gradually being cut away, but if we behead a living animal, it at once ceases to be a living organism. If we cut off its leg, it does not cease to be alive. Thus it seems that a certain relative arrangement and connection of its own parts is essential to the individuation of a living organism, without which it is a mere physical object. We can of course cut up a starfish, and its parts may live and reproduce. But this is merely a question of degree. By using chemical agents, more subtle than the knife, we could disarrange the parts of the creature and produce death. It seems, then, that though we have no clear conception of the nature of life, we can perhaps state the difference between vital and physical individuation among familiar objects. The individuality of the former lies in a certain mutual inter-relation of its own parts, but that of a ball depends upon our senses and purposes and the play of external force.

Insufficiency of
a particular
internal inter-
relation as
descriptive of
life.

It may, however, be objected that, though we have differentiated the living object from the ball, we have not distinguished it from the molecule or atom. For the special nature of the molecule is due to the nature, arrangement, and quantity of its components, and, as a fact, it is on this principle that we obtain a difference between the elements. This would be a sound objection, and is of the greatest significance. We are led astray by the false individuality of the ball or the hill, which is merely due to the particular nature of our "senses"; the true cosmic line, in the matter of individuation, is the electron corpuscle, atom, molecule, then perhaps the physiological unit in the vital organism, and finally

the mental being. For in each case a new set of irreducible qualities appears; the object is active on an intrinsically different principle, and if we are attempting to determine the question of individuality (or existence of the mere parts of the universe) for metaphysical purposes, it may best be achieved by this test. The ball exhibits no new quality which the molecule cannot equally imitate; when the phenomena are analysed, the ball is merely active in a similar manner, displaying physical and chemical activities in an aggregate. It is of course realised that there are certain purely physical forces which are found active only in connection with considerable aggregates of matter, but it is supposed that the very essence of the problem of life lies in the fact that vital activity cannot be reduced to the lowest physical and chemical terms, as in the case of these suggested forces. Elasticity, for instance, does not raise the same type of problem as life, since it is theoretically reducible to the molecular forces, and is to be regarded as an expression for certain combinations of them. At the same time our argument would not be affected if it appeared that the relation of the vital to the molecular unit is merely parallel to the relation of the molecular to the chemical unit. The natural division of physical science into biology, chemistry, and physics, however, is sufficient guarantee for the soundness of this position.

It appears, then, that our differentiation is only partly satisfactory. A particular internal inter-relation of its parts, as characteristic of an organism, is in some degree an adequate description of the latter, but it is too wide in its application, for it is also shared by the molecular and atomic entities.

Living processes, as described by the biologist, are a continuous series of chemical changes of a certain selective type. Straightway a teleological flavour tacitly creeps in with the word "selective," and we cannot overlook this circumstance. Herbert Spencer added to

Analysis of the conception of life as a selective series of chemical changes.

his definition "in adaptation to environment," and our final description of life must take note of the underlying significance of that remark. Let us consider an actual case of an amœba encountering its destined food. The observed occurrences are as follows : it meets many objects in its aqueous medium, and probably blunders against most of them. A physical relationship of mechanical pressure ensues, but no chemical process. Presently it blunders against the destined food, possibly displaying no purpose in doing so. But a series of particular chemical changes now occur, which would not have occurred were the object an unsuitable prey. Assimilation and excretion are the essence of this process ; protoplasm is formed by regularly "selecting" from certain objects some of their elements, and successfully rejecting the remainder. If the latter are not rejected, there is some measure of toxic action, and if the forces of the material world bring certain chemical substances into connection with the living organism, unsuitable chemical combinations are formed, and again we find toxic action, and possibly "death." Hence in the struggle for existence means are presently evolved by which objects which may cause such chemical combinations are avoided. We must now compare this mere description, which aims at no explanation, with an ordinary chemical process. Two substances meet and chemical union occurs ; later, a third substance crosses their path, and chemical union again occurs, resulting in the "excretion" of one of the three factors. Include the whole process within some one familiar physical object, and let the second part of it occur quickly, and we have an analogy to the processes of life, omitting, for the moment, consideration of the "selection." In this connection it may be pointed out that recent observations (1903) tend to confirm the existence of conditions under which vital processes may be almost paradoxically delayed, occupying many months in their completion (W. D. Halliburton).

As for the "selection," where first creeps in the teleological notion, we must again consider ordinary chemical activity. Many inanimate objects can be applied to platinum, but no chemical action follows; presently some other substance, being presented, initiates chemical action. We are not, however, drifting into Hylozoism. For it has not been said that the inanimate object displays a type of chemical selection, such as is exhibited by the living object, and thus is the vehicle of life, but the following description of the facts is given according to scientific observation, refusing for the present to admit either a chemical activity (taken in the narrower sense) or life or mind into the account, since when that is done, the case is already in part prejudged.

Ordinary chemical action is selective in one sense.

A molecule meets a second molecule, and there is merely mechanical action. Presently it meets a third molecule, but on this occasion both molecules break up into their constituents, and form a different combination of atoms. In so far as possessing a certain internal structure, the molecule, then, has specialised relations with a limited number of other molecules. As a whole object the molecule also has purely physical relations with all other molecules. Gravitation is a special aspect of this relationship. Now let us proceed to the "living" object. This too reacts gravitationally to everything. It also reacts chemically to many objects; and some of them exert toxic action on it, but, from a purely chemical point of view, this latter term is unmeaning. But in addition to these capacities it has a third more specialised relation to a still more limited number of objects. They can initiate a special *series* of chemical changes in it, and only in virtue of these serial changes in its parts does it act, taken as a whole object, according to that particular principle which we afterwards describe as teleological. Therefore we select this particular kind of serial chemical action, and regard it as involving a special type of relation. The action-as-a-whole on a

Vital individuation regarded as involving a more specialised relation to a limited portion of the external in addition to the ordinary physical and chemical relations.

particular principle is the first sign of that which we afterwards know as mind, but this is purely irrelevant from a chemical point of view. From that standpoint it is merely that which happens to occasion the renewal of the particular type of chemical series known as vital, but from Nature's standpoint this continual renewal might be put down to pure chance.

Life from a physical standpoint.

Regarded as a particular chemical series, easily interrupted by single chemical unions of an alien character.

And also as a particular type of motion-as-a-whole of the organism, of no particular physical significance.

We might imagine Nature describing the principle of the observed activities of living objects thus: By possessing a certain internal construction, an ordinary molecule has specialised chemical relations with certain other molecules; as a whole object it has universal relations with all other molecules, as is seen in gravitation. In so far as possessing an internal construction, exhibiting a particular series of chemical activities, certain "living" objects (restricted in size to ascertainable dimensional limits) have in addition another specialised relation to some other objects. The latter "nourish" them, and in connection with them the living objects, in their rôle as a *series* of chemical changes, display a unique activity, just as the molecule displays a special activity with certain other molecules only, resulting in *single* chemical changes. There is, however, the following difference, due to the fact that these living molar objects are aggregates of ultimate atomic entities, instead of being single molecules or atoms. The process, occurring necessarily in a serial form, can be interrupted by the fortuitous advent of other chemical substances, which happen to have the capacity for the ordinary chemical relation with certain parts of the vital molar object. These *isolated* chemical unions can render the affected portion unfit to perform its part in the "vital" *series*, and can thus upset the whole vital process. Nature might add that after this interference the "teleological" relation-as-a-whole to certain objects, also taken as wholes (such as would be for us the "prey"), may be invariably observed to fail, and is thus perhaps connected with the serial chemical changes,

and not with the ultimate material entities, atoms, or molecules. (The nature, however, of these very entities may be but relatively ultimate, for, from the radium experiments, it is evident that in the end atomic entities themselves may appear to involve a serial change, and on their being broken up, the *ordinary* chemical relation would cease to exist, just as we are accustomed to see the vital relation disappear in death. It is apparently only a matter of time, till the "life" of atoms fails.) Just as the molecule has different relations, as a whole object and as having parts, so this new living object is also observed to exhibit a new relation as a whole, which, from a merely physical standpoint, might theoretically be unconnected with its serial changes. As in the case of the molecule, this new relation also is shown in a particular type of motion or activity. But the latter is necessarily overruled by gravitation, and the living object's system of limbs, acting as levers, only enable it to move in certain directions and with the help of certain forces, just as the stone, in our former illustration, projected by the geysers. It exists under the imposed conditions of gravitation. *Single* chemical unions *may* interfere with and "poison" the living thing, and gravitation *must* modify its motion as a whole. This motion, as a whole object (still speaking from Nature's point of view), often brings the living organism into contact with those very objects which are suited to make it display its other peculiar relation, by which is involved that particular *series* of chemical changes (which for us is digestion). This, however, might theoretically be due to pure chance, as in the case of the stone always happening to pitch on a new geyser and be set moving again. In time both relations fail, and the living object is no longer able to repeat its peculiar series of chemical changes. It then no longer moves, as a whole object, by an activity, which "Nature" could only regard as having an inexplicable trick of bringing it into connection with objects suitable

for maintaining its peculiar serial chemical relations. Similarly, gravitation is generally responsible for the possibility of the contact necessary to ordinary chemical union.

This particular motion-as-a-whole, however, is for us the beginning of mind.

Humanity could give Nature further information about that motion-as-a-whole of the living organism ; we describe the position in this manner in order to free ourselves as far as possible from the teleological habits of thought, which are dangerous in such a connection. Plainly, however, it cannot be proved to Nature that this view is inadequate, and possibly, as applied to the plants and certain animal forms, it is not far from being the truth.

Intrinsic relativity of chemical and physical properties to those in other bodies ; vital qualities must be similarly treated.

No one would think of suggesting that the chemical properties of molecules mean anything apart from other molecules, with which to unite. All material properties are of this nature ; they only exist in relation to another specimen of their own class. Similarly, the principle of life is not merely a principle within the organism. It is a new relation, possessed by the living substance, in virtue of its being a new unit at a more complex stage of organisation, and it is a relation towards certain other objects. This conclusion results from biological observations, and needs no new tentative theories as to the nature of life. The biological problem is concerned with the mode in which simple chemical organisations become organised as a higher vital unit, or in which protoplasm was differentiated from non-living, non-proteid substance by elaborative processes, in which the cyanogen radicle, perhaps, was a prominent factor. Such is the scientific problem of life. For metaphysics it is simply necessary to utilise the scientific description, when it has been formulated, and to compare it with other results noted elsewhere in the universe.

Illustration from physical inertia.

An essential property of matter is inertia ; if undisturbed, a molar object will remain at rest, and if impelled, it will continue to move in a straight line, save for external interference. In its far more limited sphere,

we may speak in a sense of vital inertia. This is not a wild application of a false analogy, for it is merely employed as a convenient term for a process which cannot possibly be mistaken for the purely physical property from which it must originally have been derived. Matter, as matter, has inertia ; a living thing, as living, maintains a certain series of chemical changes, and these compose from Nature's standpoint its entire special degree of existence, as living, if we abstract the dubious quality of teleological motion-as-a-whole. And this term inertia is deliberately introduced in order to rid the subject temporarily of certain false associations, and to illustrate our conception. Inertia often becomes infected with the notion of mental laziness, as opposed to effort. But neither of these has any place in the material world. By inertia we simply mean the behaviour of an entity by reason of its intrinsic nature when externally undisturbed. This conception is of course only relatively true ; nothing exists ultimately save by interaction with the external. A living thing, as such, will maintain its series of chemical changes. It does not, as such, necessarily *care* whether it maintains them or not. Like the molecule ruled by gravitation, it initiates in obedience to its peculiar relation, its series of chemical changes on meeting with the right object, which we describe as a suitable prey. But the wider universe is such that these objects are not always forthcoming. From this standpoint conscious mind appears as a secondary auxiliary evolved with a view to securing them. And with mind there is effort, and presently mind is strongly desirous of maintaining its vital characteristics. We may perhaps be regarded as making too mechanical a use of our conceptions, but we wish, provisionally, to state the matter as thoroughly as possible in this manner in order to bring into relief the different aspects of our problem. We do not know whether there actually exists a living thing in which there is not a trace of the teleological element, an organism, in which the motion-as-a-whole really in-

volves nothing more than motion (even if we omit metaphysical considerations of the nature of the universe as a whole.) But vitality, taken abstractly from these possible germs of "mind," can truly be said to be a new species of inertia. We are not, of course, asking how it comes about that the motion as a whole presently develops into mind. But those vital organisms which do not considerably develop this "secondary characteristic," mind, are usually less successful in the struggle for existence. The idea of vital inertia is well illustrated by the *amœba*. Life, it is now known, does not intrinsically tend to death; under suitable conditions it is able to maintain its series of chemical changes and be in a sense eternal. Only with the development of somatic and sexual properties does death become inevitable. Of course an inertia, which can irretrievably cease, is not truly similar to the ordinary physical inertia. But we have a special reason for so carefully distinguishing these two essential aspects of the vital organism, since the relation as a whole to external objects must presently be considered separately in another connection. Life is not a new entity, mysteriously appearing from nowhere, but a rare and specialised relation in the universe, resulting from the formation of a higher unit (perhaps the biophor), higher than the molecule or atom, and probably as inevitable a result of the play of natural forces as the development of the elements themselves. As such, its series of changes are no special manifestation of "energy" or "activity"; they are of the usual material type, to which neither the terms effort nor repose are applicable. Biologists attempt to discover the means by which this organisation was formed, but, however it has been formed, it may justly be described in these terms, in contrast with other types of relation in the universe.

It is seen to be essential that life should appear as a limited entity within the wider range of the whole material universe. The adaptation-as-a-whole to the

environment silently introduces "mind." But in the "selective" chemical processes there is no reason for seeing anything from a purely physical standpoint but a higher specialisation of mere chemical relations, occurring in a special physical aggregate, which is large enough to contain a whole series of chemical processes. The necessary conditions for life require an universal gravitational relation and chemical relations, limited to the occasions of material contact. Some of the latter must be combined in one suitable physical object, instead of being scattered through the universe, as is the case with sporadic and isolated chemical activities. Then we find the right conditions for the existence of the new unit, involving, as it appears, *ipso facto* a new relation as-a-whole to some external objects, in addition to the original physical and merely chemical relations. It is also obvious why this new individuation, involving life, disappears after a disarrangement of the internal parts of the organism. It is because the essential principle of life is no continuous underlying substance, but a particular serial activity, as opposed to the isolated chemical processes, which are characteristic of mere physical individuation. Assimilation and excretion are necessary in the simplest forms of vital activity, and they can be partly interrupted by isolated chemical activities of a "hostile" character. Hence also the destruction of the relation as a whole is easy, because it is essentially concomitant with the serial activity. The latter may be easily inhibited through the presence in the organisms of the capacity for independent isolated chemical activities. But the mystery of life is not thus affected, for we know no reason why this new series involves a new type of relationship-as-a-whole, namely, the teleological. No explanation is offered, but fortunately it is not required for our present purpose. All that is needed is a true description, expressed so as to bear comparison with the descriptions applying to other types of existence.

Primitive organisms regarded in reference to the atomic activities of their parts are "vital"; in respect to their activity as a whole, are potentially "mental."

The chapter on physical individuation was constructed under that particular title partly with a view to the vital individuality. We can now present an universe in which we are free from certain complete incompatibles, merely because we have withdrawn our attention from those aspects of existence which are indeed obvious, but are irreconcilable with each other. So long as we confine ourselves to considering the abstraction, life, and mere chemical action, we risk becoming involved in the confused type of theory, which issues in attributing "sensations" and the like to the inanimate objects. These theories are indeed trying to do justice to the facts of which we have taken account. If it be said that certain inanimate objects are of such a character that, when organised on a particular principle, they will necessarily in course of time lead to the experience of sensation, thus perhaps sensation may be called potential or even "active" in iron or oxygen. But to maintain that it is in any sense whatever "actual" in these elements is to introduce a confusion of terms which cannot be too severely condemned. Certain combinations of elements exhibit activities and capacities for displaying "irritability" closely analogous to those of the lower forms of life, and it is quite possible that this sort of activity may lead up genetically to the vital activity. But we are far from regarding this type of fact as a justification for attributing sensation to the merely "inorganic." We prefer, as has been mentioned, to restrict "sensation" and "thought" to their narrowest possible limits, as undoubtedly apprehended in self-consciousness by fully developed mind. Then at least we know that we are dealing with a clear fact, whereas we have not any knowledge as to the nature of sensation in the amoeba, much less in iron or oxygen. But by comparing the individuated activities which the universe presents to us, whether they are the activities of the atom or the molecule or the biophor (if it exists) or of mind itself, we have a true common

By thus avoiding life and mind, we can describe the universe as individuated by various types of activities which have elements in common, so as to give a basis for reasoning.

ground for comparison, and we shall not be lured into that bottomless quagmire, existence, which is ever potential and active, never fully actual. The deceptive words, "mind" and "life," if taken as the basis of metaphysical reasoning, are the stupefying miasmas arising from that quagmire, though they may be freely used, for the sake of convenience, when we merely wish to indicate that we are dealing with the subject generally, the limits of which are often hopelessly indefinable. We have not yet considered whether we are justified in maintaining that pure mental activity can find a common ground with the physical. This problem will be discussed in the chapter on psychophysical interaction.

We have taken the active relations between objects as our basis throughout, and this will carry us as far as the moment when, in self-consciousness, mind apparently has relations with itself alone. Activity elsewhere necessarily implies external existence, and it is well known that all which can be scientifically defined in physical nature must be expressed in terms of one object's relation to other objects. Gravity, chemical action, and all their derivatives display this characteristic, and we are now merely asserting the same of life. But life appeals to our imagination, and the imagination is that which personifies and stereotypes more resolutely than any other mental tendency. When a loved one, who is essentially regarded as an individual, hangs between life and death, we are not inclined to regard life as a mere new relation to the external. It seems remarkably concentrated on such occasions. Yet even in such a case all efforts are directed towards supplying food from external sources, and it is only because our attention is absorbed in the result of our actions that we disregard the true nature of the presented facts. The ox which was killed to make the bovril would certainly hold a different opinion as to the nature of life. This is merely another example of our unavoidable disregard for the claims of most of our fellow-beings. Probably

Pure mind in human introspection is thus temporarily omitted.

the reader will have noticed how the most tender-hearted of ladies, when engaged in shopping, will descant to the butcher, visibly without a wince, upon the details and the desirable time for killing the lambs which they have lately admired in the meadows. There is no reason for blaming this inevitable propensity. It is merely a good illustration of the tendency of mind to stereotype all its experiences under certain headings, the separate words of languages being also a continuous witness to this truth. The lamb, as connected with shopping and the butcher, raises no mental association with the lamb in the meadows save in the mind of the vegetarian. But that would be little consolation to the lamb. Whether we wish it or not, we must crush and destroy at every turn, and seldom even be aware of the victim's pain. The anæsthetics of science, mental and material, may afford some help, and trustworthy experiments on the nervous system throw doubt upon the degree of capacity for pain inherent in the lower animals. Strangest irony of all is the glory of the soldier, yet most significant as bearing on that idealising tendency of mind which will presently play an important rôle in our work. It is possible for a human being, who has consciously chosen it as his profession to kill, to be none the less an honoured and honourable specimen of his race. Moreover, by the majority of humanity he is, consciously or unconsciously, regarded as the noblest. Both in ordinary life and in history the Army and the Church are usually in close alliance. We can say nothing more complimentary to mind than that out of such unpromising conditions it can produce many of its noble qualities.

Imagination and instinct are seldom wholly in error, and it may be that when they stereotype life so vividly as an absolute existence there is an element of truth in the proceeding which may be justified by a fuller comparison with the inorganic. It is probably evident to the reader that it is not satisfactory to reduce life to a new relation between certain objects, even for the

express purpose of this work. There is a certain "one-sidedness" in the vital relation which is absent in the case of the ordinary chemical union, and we must consider its nature. If we wished to create living substance, and were deft enough to produce the necessary chemical combinations, our handiwork could theoretically begin to live only in the act of taking food. But in the case of ordinary chemical union there is fair play, so to speak, on both sides, and even where catalytic action occurs, the introduction of a third agent does not alter the merely chemical character of the union. In the case of life, however, the object which is to be assimilated exhibits no parallel to the serial processes taking place in the living organism. If there were such, the serial processes could scarcely be continued on both sides. It is not necessary to enter into the difficult biological question as to the possible formation of vital units within a vital whole. If it is the truth that they never are actually formed, but protoplasm exists, only by continually beginning and ceasing to be protoplasm, our arguments would not be affected. Taken in abstraction from its display of motion-as-a-whole, life simply is this incomplete series, and it is of no importance whether it ever actually completes its intimate internal structure for a moment. We are certain that the structure must be quickly broken up again. But we cannot really abstract this series from the activity of the organism as a whole, though we have hitherto employed this method partly with a view to lucidity in a future inquiry. The fact is sufficient that actual observation always finds them together. Even a plant acts as a whole, though the activity in this case resembles to a greater degree a summation of the mere series of chemical activities. But the roots and the tendrils of a clematis begin to show quasi-mental properties, taken as a whole. We cannot fully explain our one-sided relation unless we take full account of this property of the

One-sidedness in the vital relation due to the fact that in life, a serial process, not a single display of activity is maintained.

object as a whole, which is destined to develop into mind.

Nature of vital
protoplasmic
activity accord-
ing to biological
research.

Protoplasm, in contrast to non-living substance, has the peculiar faculty of "intussusception," that is to say, it grows by continuous concomitant assimilatory and dissimilatory processes. The new substance finds an intra-molecular distribution, the older excretory or katabolic substance being correspondingly removed from its protoplasmic intra-molecular surroundings, thus becoming extra-molecular, non-living, and non-protoplasmic. Protoplasm everchanging remains always the same, yet not so much by virtue of its uniform composition, for it is at least doubtful if it is possible to speak of a protoplasmic molecule or even molecular system. But it is rather by the persistence of the *processes* which we have previously pointed out as peculiar to it, processes which, when capable of being brought to bear on non-living substance, by that very fact transform it into the living continuum. Hence we are justified in saying that the vital relation of protoplasm is one-sided towards the environment, while its non-vital relations, like those of the rest of the material universe, are on equal terms with the external. Protoplasm is that which, within certain limits, converts all else into protoplasm by excreting those substances which will not submit to such a transformation. We cannot avoid introducing this species of "superior" activity, which it thus possesses, and which results in protoplasm maintaining its identity throughout its unions with external objects, while the assimilated object is split up and in part rejected. This process is possible because, as compared with the external object, protoplasm forms a differentiated whole, while the object is an isolated factor. It is therefore of importance that we do not term anything living except as displaying a certain *series* of chemical processes. There are, indeed, inanimate objects in nature in which a series of chemical processes is occurring. But these

are of an essentially terminable character, and thus differ from the elementary processes of organisms, which must have been primitively continuous and non-terminating, and are still such, as Weismann has pointed out, in those lower forms of unicellular life in which sexual processes have not yet been differentiated.

We do not claim to understand why the particular vital series of chemical processes occurs simultaneously with a certain type of motion of the organism as a whole. We are, however, equally ignorant of the reason why ordinary chemical activities, in the atoms of the molecule, are always co-ordinated with gravitational powers of the molecule as a whole. All that we need, as metaphysicians, is the knowledge that parts of the material world at various times are organised into more and more complex systems, and that, when this change occurs, it is signalled by the appearance of a new set of relations to the external. The material world might be fancifully represented as trying to form a successful organisation. First it attempts to accomplish this end by mere brute force. Cosmic dust aggregates into great solar systems, too powerful to be drawn from their courses by other organisations. But, after all, there is no central sun, for the mighty forces of blind Nature merely counteract each other, and fail to achieve that consummation. Then the attempt is repeated in the direction of intensely minute organisation. The living organism is indeed nearer to providing a centre, but, as living, it cannot extend its special vital relationship to all the objects of the material world. On the other hand, gravitation furnishes us with universal relationship, but no centrality. Life almost provides a centre, for its essence, as life, depends mainly on the internal organisation of the living object. But the special relations of the latter, in respect of its vital qualities, are very few, and the period during which its life is maintained is generally occupied with the unceasing attempt to avoid those various connections

The cosmic forces produce no final material organisation or centrality.

which ultimately succeed in destroying its capacity for special vital relationship. But self-conscious mind, *in its own conceptual sphere*, is certainly a true centre, and in proportion as it extends its relations in any direction, be it by development of action, feeling, or intellect, it is usually felt to be a superior specimen of its type. Mind, moreover, does not alter objects nor destroy them by its relationships, nor is destroyed by the reaction of other minds.

The adaptation to environment, which we usually associate with life, may for metaphysical purposes be expressed in a somewhat more accurate way, though there is no need of the detail required in biology. The living thing in its earlier stages is rather adapted to its environment than adapts itself to it. The new qualities, which will prove useful in the test of natural selection, are ultimately produced, according to Weismann, by inequalities in *nutrition* of the germ-plasms, and thus we trace back to the variability of *external* conditions the qualities essential to successful life. This view therefore coincides with the principles, expressed in the chapter on the forms of the mind, upon the origin of the modes of our perception. We here lay stress upon the conception of the vital, if taken abstractly from the mental, as not differing in essential character from ordinary physical processes, but as merely concomitant with a new type of relation of the organism as a whole. But the fact that it is a series within an arbitrary material whole is important, not for itself, but because it makes possible that which afterwards develops as a totalised and organised entity, namely, mind, though merely a secondary development, from the point of view of biology. Without this vital series and its "prevailing" power over ordinary objects, mind could hardly have developed, for its material concomitants would be for ever completely changing in their entire character. But the protoplasmic series is complex and large enough to furnish a unit which can maintain

some degree of identity by the very mode of its changes, though that identity is at first of a highly ambiguous character.

We can scarcely, of course, avoid implicitly introducing a teleological colouring, but we may state the position as follows. A vast number of sub-sensations and molecular impressions must take effect on the brain before that which we know as consciousness can become actual. Psychologists have proved that a single sensation necessitates a great number of sub-sensations, which are unable to take rank separately as a psychical phenomenon. A great physical complexity is therefore a necessary substratum for mental activity, but such a complexity will soon involve frequent isolated and destructive chemical changes. Mind therefore must be based on the serial change itself, and is developed in the human direction, as a contrivance for maintaining it in an ordered fashion. We cannot avoid arguing to a certain extent in a circle, since we assume before its appearance the actual characteristics of mind, which we could not have predicted. Considering, however, the history of the universe before the advent of life, we should not have been unreasonable in anticipating the probable formation of some new unit or form of totalisation. For we should have watched the formation of the atom and the molecule as represented by scientific observations, though we could not have conceived beforehand the unique properties of consciousness.

It is now evident on what ground the first chapter, definitely devoted to mind, was entitled "the Principle of Life." According to the present view, it would be hard to separate the two conceptions. A nervous system is not differentiated as far down in the evolutionary scale as the level of the amœba. Taken in its parts, we describe the amœba as living. Taken as a whole, we hardly dare to say that it has mental qualities. But as a whole it has a peculiar type of motion, implying a new relation to certain limited portions of the

Mind is actually based on a series of changes, which work on a fixed principle. As it requires a very complex physical organisation, easily upset, it could not persist unless so based.

Recapitulation. universe. The extraordinary character of amoeboid movement is well known. It is tending to mind. But mind, when actually appearing, has already reached a further degree of differentiation. Motion of the organism as a whole is then, as it were by a partly retrogressive step, *mechanically* directed from a very small portion of the psychophysical organism, the brain. For in the higher animals the greater part of the organism, such as the bones or claws, has ceased to be sharing simultaneously in the protoplasmic series, and is maintained, like our military armaments, as a necessary burden of offensive and defensive weapons in the struggle for existence. In fact, so long as mind was merely represented in the protoplasmic series by a particular motion as a whole, it is probable that it could not be actual as mind, but only as this peculiar type of motion. Every new step in the universe is a fresh differentiation, nestling within a larger whole, and generally produced as a secondary development. Thus "consciousness" appears concentrated, it seems, in connection with the frontal lobes of brain, but is yet dynamically connected with the whole body. (Since consciousness is not yet defined, it must not be supposed that psychophysical interaction is prejudged by this remark.) But mind has also the capacity for establishing a totally new relation with the entire universe, both as a whole and in its parts, and this of a type foreign to material processes. Such a relation will form the subject of our chapter on the ideal instincts.

In this connection it may be interesting to compare Mr. Hutton's view of the consequences of Hering's theory of heredity, as stated in *Nature* (February 18, 1904).

He argues that life should be regarded as an adjunct, and not a necessary quality of protoplasm, supporting the contention by referring to the oospore of some of the lower plants, such as *Chara*, in which the larger cell, after division, contains only dead protoplasm separated

by the process of cell division. Irritability in protoplasm he describes as merely reflex action, due to "experience," and thus implying "mind" and "memory." It is of course obvious that these latter terms are not used in the ordinary sense, much less according to our strictly limited definition. Biology, he adds, should thus be regarded ultimately as a branch of psychology. Now in this account "life" is limited to the process of assimilation, which we have described as activity of the organism in its parts. "Life has no entity of its own; it is mind made manifest to us in the movements of protoplasm; this is the 'vital principle' of some physiologists." This view, which results from a consideration of various biological facts bearing upon the theory of heredity, is coincident in principle with that which is expressed in this chapter, except that mind is left vaguely as a kind of universal storehouse of undefined character competent to meet all demands, whereas we class it under the heading of the activity of the organism, taken as a whole. This activity is probably continuous in evolutionary development with the general energy of the universe, and, in consequence, we have no objection to its being thus left undefined, provided that it is fully understood that the word "mind" means nothing whatever for strict thinking, unless brought into relation with some *particular* aspect of the material world. In a later chapter we hope to show that it is partially capable of being defined in such a connection, and thus of subserving a useful comparison of the various types of existence exhibited in the universe.

Comparison
with a
biological view
of life.

CHAPTER V

FORMATION OF THE MIND

IT has already been remarked that the titles under which the various aspects of mind may be discussed are necessarily inadequate. For, since it will be shown that mind has never yet attained its full existence, as mind, it cannot be expected that it can easily be described in a satisfactory manner. The evolution of the material world has apparently produced as considerable a degree of organisation, at least in principle, as is possible, for, as far as we observe, there is no new tendency save that exhibited in the somewhat abortive formations of Solar Systems on a larger scale. But it will be shown that the position is otherwise with mind, if it is pursuing the course characteristic of previous evolution. We indeed have ourselves an intense *sense* of existence, but we have no clearly apprehended higher type with which to compare ourselves, and psychologists can prove that the sense of existence is a complex and secondary derivative experience, gradually built up from widely divergent psychical sources. It will indeed appear that the best prospects of mind lie in the fact that it does not yet fully exist. It is active, but it is not fully actual. Sleep periodically intervenes, and our idea of ourselves as a stream of "consciousness," even in a waking state, is erroneous. Mind is mainly sub-conscious, and this phrase is in reality a mode of describing that which is non-existent, if taken as mental, but which is yet active upon consciousness.

Mind as an observed reality, apparently distinguishable from matter, occurs only in introspection; otherwise it is active, but not actual.

The psychology of the earlier formation of mind must be of a somewhat dubious character, for it deals with a subject which we can hardly compass. When we were concerned with the amoeba, we had no warrant from science for postulating mind at all. Hence the task was the comparatively easy one of observing the physical motions of the amoeba and comparing them with other types of activity. But we cannot spring from the amoeba to civilised man. Though not strictly actual, before he is reached, mind is active on widely differing principles. We cannot, however, either observe it directly or experience it personally in the intermediate stages. One object of this work is the definition of the reality of man, as compared with the reality of the Absolute. That which we may call intermediate mind, the subject of Mr. Hobhouse's *Mind in Evolution*, may perhaps be described with sufficient accuracy for this purpose, and our main object will be achieved, since we are not writing a treatise on psychology. We must, however, take a definitely psychological standpoint in this chapter, and consider the genetic theories of the development of mind. For mind is only apprehended as a temporal series, and we cannot avoid assuming the psychological rôle in consequence. But psychology has always been associated with metaphysics, though its methods, through the influence of the natural sciences, have become more purely scientific in character. But in proportion to its approximation in method to the natural sciences, most of its details become irrelevant to metaphysics. Reaction times, for instance, are scarcely needed for our purpose, though it might be important to know that there is an interval of time involved in certain processes.

Though there must be considerable overlapping, the discussion of mind will fall roughly into the following sections. There is a stage when "mind" is active in a sense, which is not truly paralleled by the case of the amoeba. Roughly, it corresponds to that period in

Various stages
of the evolution
of mental
activity.

evolution during which a nervous system is differentiated from the mere protoplasmic mass, but there is not yet any such psychical phenomenon, as self-consciousness, or the treatment of the conscious stream, as either implicitly or explicitly labelled "mental." For instance, we can be pensively thinking over our memories. This is *implicitly* labelling them as mental. Also we can be thinking that they are only memories. This is *explicitly* recognising the conscious stream, as a mental phenomenon. The dog possibly exhibits the former at times, but not the latter. There is, however, a stage below this level, but above that represented by the amoeba. It is the stage of most of the considerable living organisms, possessing a differentiated nervous organisation, but it is very hard to express it even in pseudo-psychical terms. Action is here prompted by various portions of the nervous systems, totalised so as to respond to certain environments. "Portions," indeed, is a most unfortunate term, when we remember that whatever we may designate in the brain, as the "seat" of mind, we must not suppose that a group of cells, as such, can represent a sensation or a thought, or a system of thoughts, either implicit or explicit. We know that probably all the brain is ultimately involved in the production of any given psychical phenomenon. But it is equally obvious that certain psychical phenomena are more connected with certain parts of the brain than with others, as accidents and operations on the brain have proved. The brain connections and the forces operating on them are also shown to play the most important part in the production of psychical phenomena. But whatever description might really be most accurate, it is sufficient for our purpose to observe that there is evidently a stage in evolution when there is a clear perception of the material world, just as we perceive it ourselves. Whereas it is not necessary to assume that the spermatozoon, for instance, has any perception at all. This perception of the ordinary

animal is determined partly, of course, by the material world, but also by the forms of the mind, as described in the second chapter. The latter can scarcely be fully developed in the amoeba. We are, perhaps, at liberty to say that such creatures as the ordinary animal *are* mere matter, provided that we divest that word of any implicit assumptions as to its ultimate meaning. An animal, then, shall be regarded as matter acting gravitationally, acting chemically, acting vitally, and also with portions of its nervous matter, not only acting as a whole, but in relation *to some arbitrary material whole*. The vital activity, on the other hand, acts atomically upon the food-object. The tiger *sees* its prey as a *whole* deer. But the tiger's stomach (mainly representing its serial vital activity) afterwards acts on the deer, as being an aggregate of chemical entities, to be digested in turn. But it is still preferable to describe the watching of the deer by the tiger as a new type of relation in the universe ; one object as a differentiated whole, that is, the brain of the tiger, has a new relation with another object, which may be differentiated (like the deer) or not, but at least is regarded as a *whole*. It is a higher and more comprehensive relation than the merely vital connection, and it will be seen how completely unnecessary the words mind and matter have now been rendered for our particular purposes. There is no doubt that in common parlance we should now be hearing of the tiger's "mind," and of course there is no objection. But it is not easy to find as yet the purely psychical phenomenon in the tiger ; if it is anywhere, it is the totalised spectacle of the deer itself. This latter point will be elucidated in the discussion on the "material image." But if the tiger can reflect in visual imagery on the slain deer, and thus possess something more than the mere feeling of sated hunger, then such visual imagery, even though not recognised as such, might be worth calling mind. We recognise, however, that mind, which is practically a contrivance for

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spection occurs,
mind is best
described as the
relation of the
organism to
other objects,
taken as wholes.

“short-circuiting” experience, always tends to obscure itself, taken as mind distinguishable from matter. It must be now clear what is meant by the stage in evolution between the amœba and real mind, or mind observed in introspection as a separate entity. In the intermediate stage the regular sequence of sensation and perception is formed; reflection and memory, though not actual, are in full working order, and are effective in vulgar life against higher types of mentality. We may compare Tennyson’s description of Merlin reflecting on “Meanest having power on highest,” while he drew near unconsciously to his own doom. The discussion on the formation of mind will be mainly concerned with the character of mind in this stage, with special reference to the nature of its gradual differentiation, whereas that which deals with the activity of mind in psychophysical interaction will be more concerned with the world, as apprehended by mind. “Mind in man” introduces a subject dealing with mind, acting on itself in self-consciousness, and it will then be convenient to consider certain well-known aspects of mentality, such as reason and instinct. After this has been accomplished, it may be possible to collect the results and apply them for the comparison of man with the Absolute. These headings are of course more or less arbitrary, and must continually involve each other, but that criticism would perhaps be equally applicable to any other division which might be made in such a subject.

The true distinction is not between mind and matter, but between entities having relations with the external only, and those having relations also with what they regard as themselves.

In dealing with the formation of mind in the average animal we are thus concerned with another relation between two individuated objects in the universe. There is no question as yet of an entity having relations with what it regards as itself. For such a relation, which occurs in the case of self-conscious mind, according to the view which will be expressed in this work, establishes a break which is valid in the universe. Not between mind and matter, but between mind, as merely a new

relation to the external, and mind as having relations with itself, is the real line to be drawn, though our genetic method intrinsically excludes the possibility of marking a point of change. For mind's activity in the former stage is entirely on the same *principle* as physical, chemical, or vital interrelation, and principle is surely far more important than the particular "substance," mind or matter, in which the principle is exemplified. For when we reflect how meaningless is the word "immaterial," just as the word "infinite" in our second chapter, the superiority of principle, as a ground for comparison, becomes evident. In this we are dealing with nothing that has not a definite significance for our apprehension: the obscure and the mysterious has been shifted into a position where it is no longer relevant to our problem. For we no longer ask what is the essence of mind. We substitute its unmistakable mode of taking those objects as wholes which physicists have shown to be only explicable, from a physical standpoint, in terms of their parts.

It has always been a problem in psychology, whether a pure sensation is possible, or, in another form, what is the nature of the "first sensation" of a child. For it has been definitely proved that any perception which we may consider, depends for its nature partly upon the character of previous sensations and perceptions. It has also been shown that we must assume a number of "sub-sensations," which fail, singly, to be psychical phenomena at all. This assumption results from psychological observation of the various levels at which consciousness under differing conditions results. The evidence of the coenaesthesia also indicates a similar truth. It is, moreover, well known that in the ideal state of health a man is not aware of possessing internal organs. But on the advent of illness, a general vague sense of discomfort is felt in the body. A vast number of such nervous impulses must always be flowing to the brain, but they are not usually experienced. When

Main problem
—the reason for
the differentia-
tion of mind
into conscious
and sub-con-
scious activities.

Struggle for existence tends to develop sensory capacities on the surface of the body.

they are felt at all, they certainly are not apprehended separately, but as a vague indefinite whole. It is not necessary, in the struggle for existence, that they should be localised as distinctively as the perception of those external objects which are of such a character and size as to affect the prospects of the organism. Under certain conditions, various animals betake themselves to the localities in which beneficial plants are to be found. It is believed that dogs seek for grass under such conditions, and some sense of the perturbation of the coenaesthesia would be required for this purpose. But animals do not develop the practice of therapeutics, and it is usually the law of nature, like that of Plato, that to fall ill is to die. In consequence of this fact, possibly, appreciation of internal sensation is not highly evolved. Physicians know well that most human patients cannot describe their own symptoms satisfactorily, and those who can do so are not unlikely to be hypochondriacs. The formation of mind, then, will be mainly determined by perception of the external world, and the mode of its differentiation will take special shape in reference to the struggle for existence, which must always be the decisive factor in the development of any animal.

The senses, for practical value, should not apprehend the myriad ethereal or other vibrations singly.

When we reflect upon the actual physical environment of any given nervous organism, it seems hard to imagine how mind's development could have taken any other course save that which it has been seen to follow. For the organism, on entering upon the career of life, must at once be assailed by countless millions of ethereal, atmospheric, or other mechanical vibrations, each stirring its protoplasm in a different manner. It is plain that, if any apparatus could be devised for apprehending these assailants, just as they are, its possessor would be singularly ill adapted to save himself from the dangers of a hostile neighbourhood. For the majority of these vibrations do not themselves portend peril to an organism so large, comparatively, as the amoeba, but they would certainly act as a blind on its attempts to select

those vibrations which actually herald the approach of really dangerous objects. A mind clearly differentiated from matter into the particular human shape is apparently a secondary contrivance by which survival was facilitated, the animal being thus less likely to encounter noxious substances represented as its enemies. From the beginning, then, mind must have been of such a nature as to distinguish the effects of the danger-portending vibrations, in aggregate, from the non-significant impressions, and by tacit comparison the former were stereotyped. But it is equally necessary that the harmless type of vibration should also be apprehended in some degree. For it is not merely an object by itself which brings about a dangerous situation. The tiger behind iron bars is not a dreaded object at all. The iron bars themselves do not affect the struggle for existence, but in relation to the tiger they have a very great bearing upon it. Mind must not then merely select the dangerous factors, but must also localise them by reference to the relative position of the harmless. Yet at the same time there must be some difference in the manner in which the two types of totalised vibration are apprehended. We know that concentration of attention is the absolute essential for effective activity. The result of this necessity appears to be the gradual differentiation of mind into the conscious and sub-conscious. There is no need yet, as has been already stated, for describing either of these as purely mental or material, or in any other such terms. All that is required is as follows. There is hardly reason for attributing to the spermatozoon even an incipient division between these two aspects of mind which become so familiar to us at a later period. Motion as a whole, which is representative of mind at this stage, scarcely admits of any such treatment. The appearance of the sub-conscious corresponds to the time when the animal, by its actions, shows that to some degree it now possesses an *experience*. This does not, of course, imply

Dangerous objects can only be localised by reference to harmless ones, yet attention must be concentrated on the former.

Such localisation is temporal as well as spatial. When by its actions an organism shows that it has learnt by experience differentiation of the conscious and the sub-conscious is achieved.

Consequent essential partiality of mind—any flash of consciousness, for us, is an arbitrary selection from the stream of external vibrations, apprehended as indivisible. Late in evolution this is partly corrected by conceptual

anything at all resembling a conscious appreciation of such a possession. But if an animal acts so that it is evident that former occurrences have somehow left their mark upon it, we assume the beginnings of memory and the sub-conscious. Otherwise present occurrences would not be even implicitly recognised, as separate from the former experiences. Now this recognition is only possible when an arbitrary break has been made in the continuous stream of vibrations from the external objects. And this break does not necessarily correspond with the distinction which nature in some degree affords when atmospheric vibrations are substituted for ethereal. The series of vibrations selected for definite totalisation in one mental whole, such as an implicit memory may store, is probably composed of selections from all types of vibration, as we pointed out in the illustration of the rose. Mind appears in a material organism of a certain size; namely, neither a single atom of the material universe nor the whole. Hence we might reasonably expect this arbitrary selection from the various vibrations. "Matter" in fact is such that, at a certain stage of evolution, it forms the teleological relation with other portions of matter, just as it exhibits the chemical relation at a former period. But the teleological relation alone appeals to most of our instincts, and hence arises our special prejudice in its favour.

We have not yet reached that point in our reasoning at which it will be possible to suggest why the vital organism tries to preserve itself. But it is important to notice that at the stage represented by the spermatozoon it is doubtful whether we can rightly so describe its activity. This creature seems to attempt a particular chemical union, and it is not seen as yet to *avoid* anything,—a proceeding which affords the only test by which we may suppose that the deep "instinct" of self-preservation is now thoroughly active. Repulsive or evasional forces, as such, are rare in nature, except

on the border line between matter and ether, and are probably capable of ultimate resolution into the attractive. But as soon as we have the slightest indication of the contrast between the conscious and the sub-conscious, the instinct of self-preservation is invariably seen to be at work, and to provide a lever, always at hand, by the help of which mind can fashion itself according to a particular pattern. This pattern, from the beginning, is dependence on an interest, and only the interest of self-preservation is possible to the earliest forms of life. Exclusively determined by external conditions, that end can only be furthered or achieved by an arrangement by which some parts of the material world will be presented differently from the form under which other parts can appear. The greater portion of mind must *contribute* to the conscious perceptions, but must not be *actual*, or otherwise it would confuse its possessor in the moment of peril. The motor apparatus must be directed with single-hearted decision if it is to be of value in the crisis. It is of course a profound mystery that material interaction is of such a nature as to be capable of producing this double-sided entity which afterwards will be called mind. The mere fact that the latter is apparently produced from matter merely indicates our complete ignorance of the meaning of "matter." For it may be just as essential to matter's intrinsic reality that it has actually produced mind as that it does not, taken by itself, display purpose. It is often asked whether there is a purpose in nature; it would really be a similar question to inquire whether the cylinder of an engine implies purpose in its construction if taken apart from the wheels or the rest of the machinery. But for the present it is sufficient to point out that the power to produce mind is itself as important an element in the nature of "matter" as that mechanical activity upon which men of science lay so great a stress.

reasoning, but is retained in emotion and sensation.

Question of "purpose in nature" is wrongly framed. Production of mind by matter is as essential to its definition as its mechanical activity.

It is not without significance that the conscious and

Psychological relation of the sub-conscious to the conscious illustrates the metaphysical problem of the universal and the particular.

the sub-conscious do not act separately. The essence of their relation lies in their action as a more effective unity, through being in themselves separated. The motion-as-a-whole of the organism, also, is still the sole outward mark of mind, as far as we can observe. But this is now more successful in its rôle as a perpetuator of the vital series, and success has been achieved by a differentiation in the implicit component factors of that motion. The embryo teleological entity was neither conscious nor sub-conscious before this differentiation, because these two words only have meaning in contrast with each other. And their meaning, as applied to the average animal, is of course very different from their significance and possibilities in the self-conscious being, later in the career of evolution. But at our present stage, method of activity is the sole criterion of the progress of the growing mind, and we now observe that the animal's activity is somewhat different in character from that of the protozoon. Mind is not fully actual at present. But a type of action is prompted which is already differentiated according to the pattern which will afterwards make possible self-consciousness.

This peculiar arrangement, by which we are obliged to separate our subject-matter in our thoughts, is in a manner paralleled in nature. The sub-conscious largely produces the conscious, and is also something over and above it, but, on the other hand, is only actual in it, so far as anything mental is actual at this stage. We here observe the ancient metaphysical doctrine of the universal and the particular, justified as applicable to "real facts" by the progress of psychological science. But in order to give clear meaning to our description, we can hardly avoid separating these two aspects of mind absolutely for certain purposes. Ether and matter possibly afford a true parallel to this phenomenon, though the analogy seems too metaphorical to serve as a basis for reasoning. If matter is a modification in ether, as modern physicists show a disposition to believe,

ether presumably includes matter, and is something over and above it. Matter is ether totalised, or in other terms made finite ; for our apprehension and for our ordinary life ether is certainly actual in matter alone. It is the Greek *ἔλν*, subdued by *εἶδος*. The main value of the sub-conscious from a philosophical point of view lies in its revelation of the ambiguous nature of the term "matter." Sub-consciousness as a quality pertaining to matter is not recognised for the purposes of natural science, yet from our standpoint, matter can exist both as sub-conscious and conscious mind. This, however, is no reason for maintaining a crude materialism, but for making further investigation into the implications of the term "matter." It may have been noticed how completely materialistic our present terminology is in outward appearance. We are actually describing mind, as matter exhibiting certain relations. But we are not attributing any superior reality to the one over the other, for matter is not as yet fully defined. We cannot, however, refer to relations without definite terms to which they may be attached. Hence matter is preferable at present merely because it has in the main already displayed to us its actuality, so far as it possesses such a characteristic, taken separately, while mind is still in an ambiguous and embryonic condition. We can therefore realise to some extent a definite meaning in the case of matter, which could scarcely be attained where mind is concerned. This, however, is a widely different attitude from that sometimes taken up by medical specialists, who have become gradually swamped by the mass of cerebral detail. A critical analysis of their state of mind will then exhibit a confusion as to the meaning, both possible and actual, of "mental fact."

The relation of the functions of the conscious and the sub-conscious to each other may be reviewed in another form. The conscious is the organisation into one finite and totalised whole of that previously indefinite potentiality of matter which we afterwards contrast, as sub-

The sub-conscious indicates that the natural sciences, taken alone, do not adequately define matter.

The conscious
is the organisa-
tion and making
finite of a
particular inde-
finite potential-
ity of matter.
Compare
matter and
ether.

conscious, with the conscious. In the protozoon the material whole had no new qualities which could be said to be of a distinctively mental character. But the transition is probably unbroken from that creature to the most highly developed human mind. Matter, therefore, from the beginning probably had the potentiality of differentiating fully developed mind; but this capacity alters the ordinary assumption as to the nature of matter. Granted that we do not actually know in what way life first appeared, yet, even if we prefer to suppose that the Deity descended in person and thrust it into a particular material conglomerate, yet it is hard to see how those, who say that the conscious cannot arise from the unconscious, explain the development of the twentieth-century man from the spermatozoon and ovum. Are the latter in any sense conscious? It is plain that the true method of dealing with a question put in that form is to deny that "unconscious," as applied to matter, has any meaning. Mind has a quality—"consciousness"; and we presently stereotype this property because ordinary matter does not apparently possess it. But the absence of a quality is merely nothingness. If, however, we ask how man's mind, consisting of a *simple* psychological stream, is connected with his body, consisting of *several* parts, then the problem is not without meaning, and will presently be discussed in this manner. But Nature can only be mute to the former question, for she cannot understand it. "Unconscious" could only have any meaning in connection with matter as applied to the brain, which may at times be, in one sense, producing the conscious. Unconsciousness has no meaning as applied to the hair, for instance, which surrounds the brain. Similarly, if we *tacitly* assume (owing to the influence of the senses) that existence is finite, it is meaningless to ask whether the infinite ether is a mere fiction of the mind.

We have seen it stated that in man the proportion of mind to matter is as 50 to 50. Were it 75 to

25, it is added, mind might be capable of solving metaphysical problems. This astounding method of attempting to put mind and matter on some common ground is only an extreme example chosen from many less striking instances. If we start by *tacitly* and uncritically stereotyping these two, as separate entities, there can only be a deadlock produced, yet no one has ever found mind apart from matter, nor is matter, according to scientific theory, found apart from motion and energy. The significance of the latter fact with reference to the ultimate nature of mind will be discussed in our final chapter. Haeckel did well to lay stress upon the universality of energy ; but was not fully aware how completely "energy" changes its meaning when viewed in the light of the criticism of the forms of the mind. We have, it seems, no evidence of the separation of spirit and body, and our best mode of contrasting them is to describe the action of the organism in relation to the external, respectively as a whole and atomically, and thus to some extent we bring "mind" and "matter" into real touch with each other.

Thus there are stages in potentiality. There was a time (if we may use such terms), when matter had the potentiality of mind, but the latter was neither active nor actual. The former of course was not itself "matter," as we perceive it at present. In the animal stage, mind is active but not actual. There is, then, differentiation *in* mind, as soon as it is *active* as mind. Similarly there are differences in specific gravity and chemical properties simultaneously with our apprehension of material forces. Before the differentiation into the conscious and the sub-conscious, we were scarcely prepared to maintain that the spermatozoon had mind. The new aspect of the universe, mind, now active, though not actual, must be differentiated into the conscious and sub-conscious, if it is to reach even this stage. Matter also, as matter, is disparate in its detailed parts, and such also is the case with mind in its

beginning. Spatial continuity is given to matter by ether, yet infinite ether is meaningless. There is also the temporal unity, which underlies the conscious and the sub-conscious, whose activity is seen in the continuous purpose of a man of "character"; its exact meaning is as obscure as the infinity of ether to the "senses." It is therefore evident that we may best regard the formation of mind as the organisation and totalisation of one of the potential qualities of "matter," or more strictly of the universe, into finite existence. There was a time when the material world was being organised into its present series of systems from the original infinite ether, and this result was achieved by the interaction of the forces of the earlier-formed parts, and the gradual prevalence of the greater quantitative masses through the effects of gravitation. Apparently the conscious, which at first appears as an active relation, plays the same rôle in the organisation of mind. It is known that in some mysterious fashion the sub-conscious processes often achieve and ultimately throw up into consciousness that which direct conscious effort has failed to accomplish. It is true, however, that the facts of nature may sometimes inevitably suggest solutions by the mere chance of their spatial or temporal juxtaposition; but otherwise, unless a conscious *effort* has been previously maintained in some form, the sub-conscious workings by themselves are generally unfruitful. Without consciousness, there could scarcely be the arbitrary mental totalisations out of the mass of heterogeneous impressions which are stamped on the neural masses by physical vibrations. For there must be one unique spectacle affording a central point to which other spectacles may be regarded as having relevance, and this central interest is provided by the conscious activity. Yet again, without the sub-conscious there would be no subject-matter for the new activity to organise. But preference or partiality is the essential principle of the new mental activity; the mere qualities of consciousness

and sub-consciousness are far less essential from a cosmic point of view. Nature, indeed, has chemical "preferences" in a sense, but there is no material entity, which has not also an universal relation to the external objects in gravitation. But that which lies outside the selective interests of mind (such as actinic rays, for instance, until the nineteenth century), perhaps through not being appreciable at all by the senses, could have no relation to mind, as mental at all. Yet by the intellectual instinct, deliberately seeking to find interest in everything, we become cosmic in character and worthy of Nature and her universal forces, though independent of her sphere. Such an instinct would hardly be attributed to animals, even by their most devoted admirers, yet in principle it is essentially different from their impulses and hence all-important for our inquiry. To be *capable* of taking interest in everything (if time allowed) is the intellectual spirit, which has no connection with mere "cleverness"; to be capable of seeing beauty in any combination is the mark of the artist; to do justice, if possible, to all claims is unselfishness, the keynote of morality in its various forms. Mind can be such, while still abiding by those partial and arbitrary *forms of apprehending* the universe which its peculiar origin has stamped upon it. Thereby, as we shall point out, it is differentiated, so long as it exists, from that perfect mode of intuiting the universe which we must necessarily attribute to the Absolute.

Reason, while correcting the results of mind's apprehensions, cannot alter the forms by which mind apprehends, but only exhibit their imperfection.

In this chapter, however, we are mainly concerned with discussing the nature of that particular combination of the many in one which the conscious and the sub-conscious together present to our consideration. For by this, mind makes for itself and is made an universe, as it were, in miniature, yet its actual mould results as a secondary and derivative effect of mind's relative *material* position in a physical world. Unless mind had assumed this form it could not have been useful, and would not have been developed in the

struggle for existence. But this is also a form which is afterwards seen to be capable of corresponding, in its own sphere, with the construction of the great universe. The infinite ether, however, which gives spatial continuity and an underlying unity to matter, is sensuously a blank to us ; whereas we have, possibly, direct intuitions of the underlying personal unity of our own minds, such as the Absolute must have of the whole universe itself, which must by us be apprehended under the imperfect modes of perception and conception. We have no immediate reason for criticising the view of the Absolute, as expressed in Mr. Bradley's *Appearance and Reality*, and it is provisionally accepted, when it is necessary to make anticipatory comparisons and illustrations, before the opportunity arrives for independent examination. The Absolute may be illustrated in one respect by consideration of that point of highly unstable equilibrium in the career of evolution which is represented by the spermatozoon. For the latter has the essentials of real existence, a many in one, a vital series essentially connected with a particular totalised motion towards the ovum. Yet thought and reality are not yet separated, as is inevitable at a later stage, because thought does not yet exist. The reality, however, though it is a reality, is not, like the Absolute, all-inclusive. We may compare the critical moment when it seemed uncertain whether the nascent moon would fall back upon the earth, or would begin its long outward-winding spiral under the tidal influence of its parent planet. In both these cases the impossibility of a permanent continuance of the prevailing conditions forms an essential contrast with the position of the Absolute.

Thought and Reality unseparated in the spermatozoon, as in the Absolute, but otherwise in contrast.

Criticism of the use of the term "potential."

Since we have been especially concerned with a subject the treatment of which continually involves the word "potential," it is not desirable to omit reflections on the term itself. The use of this word has sometimes been almost a scandal in metaphysics. A piece

of bread, it has been pointed out, when eaten by a poet, may be necessary to the production of a poem, but we strain the meaning of the word if we describe the bread as a potential poem. Perhaps it is hardly worth while to employ such a word except in reference to the general types of existence, such as mind and matter. We are willing to refer to potential mind where it is seen that *all* mind is ultimately at some period "potential" in some portion of matter. Similarly we may speak of matter having been potential in ether, if this truth be established. But before using the term in any sense as a basis for reasoning, it must be shown to be *inevitably* applicable, as in the case of the human mind, which was necessarily at one time potential in the spermatozoon and ovum. But the poem presumably might have been produced upon a diet of cake ; it may be asserted that this difference would have altered the poem in some infinitesimal degree (which on psychological grounds is not probable), yet we cannot exactly enumerate the nature and number of the separate material causes from different sources which contributed to the production of the poem, and hence the term potential in such an application has no satisfactorily accurate meaning. But there is no objection to describing the ambiguous position of early mind as potential in matter, taken generally. Without the use of the idea of potentiality we could literally describe nothing in an universe which, for our minds, has been genetically evolved, and it is for this reason that we have so frequently referred to entities as active but not actual throughout this work. It is plain, however, that potentiality, as applied to the subconscious, is not identical with the potentiality of mind in premental matter. In neither case, indeed, is mind existent, but our example shows that there are, so to speak, degrees of pseudo-existence, as well as of existence. And we have pointed out that the word "conscious" itself, as used in this chapter, does not signify an independent psychical phenomenon, such as

is to be found in man when he reflects on himself, and in the act creates himself a true mind. It is evident, therefore, that the use of the potential, like that of the infinite, may be employed with safety if it is sufficiently specified.

The view taken of the sub-conscious may be thus expressed. A certain quality of that universe which we loosely regard as material, assumes, when physically organised to a certain point, a definite form through becoming differentiated into the conscious and the sub-conscious. It is further developed by their interaction ; and these two, acting together, form a new relation with external material objects. Our only reason for referring to the sub-conscious, instead of explaining outright that we know only the conscious and matter acting teleologically, is fear of the implicit assumption which the latter word will inevitably carry with it. For we are aware that, when we speak of matter, we usually imply mechanical action. But apparently such an expression is inaccurate with regard to the sub-conscious. Its activity is indeed largely determined by juxtaposition of events in space and time, and, if taken as neural action, must be mechanical. But indications constantly recur, showing that our ideas somehow become organised while we are not actually thinking of them. The neural action, with which we are concerned, though presumably still mechanical, in some sense subserves the conscious teleological grouping under psychical interests which is characteristic of the flow of consciousness. Thus will ultimately be involved the problem of psychophysical interaction, with which the next chapter will deal. It is important, however, to make two points clear. The conscious is not developed from the sub-conscious by the struggle for existence. The two aspects of mentality are differentiated in contrast with each other, *pari passu*, from that original and completely embryonic teleological entity which is only *represented* by a particular motion as a whole in the

amœba. We do not require a link between the conscious and the mechanical, because to ask for such a link is to imply a tacit but quite unjustifiable assumption as to the meaning of the mechanical. And this criticism is justified by our failure to observe such a gap. It is for this reason that we have persistently confined ourselves to the comparison of the observed activities in the universe. Secondly, we desire to judge entities not by their mentality or materiality, but by their mechanical or teleological activity. For the conscious mind itself in part acts mechanically. In this respect we imitate the example of the natural sciences, which ultimately classify according to observation of activities. The ambiguous position of the sub-conscious, as dubiously mental, has led to the idea of the sub-conscious entity, against which Mr. M'Dougall has lately protested. Without doubt the sub-conscious should be represented in material terms, for there is nothing else left under which it may be classified, and it is unnecessary to assume the utterly unknown before we have exhausted the possibilities of the known. It is believed, therefore, that the idea of the sub-conscious entity really results from the observation that we here seem to find matter acting in a distinctly teleological manner. Later in evolution, speaking with reference to man, Prof. James, in the *Varieties of Religious Experience*, points out how the sub-conscious is responsible for sudden religious revelations, inspirations of poetic genius, and similar phenomena. Such occurrences, of course, do not, at first blush, suggest "matter." But this is a mere prejudice, for physical matter is perhaps nearer to the Divine than conscious mind when it first prostituted science to the invention of battleships and submarines: moreover, it is not absurd to think of matter as capable, under certain specified conditions, of producing in consciousness true revelations of an all-inclusive Deity. Such gradual organisation of the brain, partly by cosmic evolution, partly subserving conscious activities, is conceivable, and is better than

The distinction should be of "matter" together with "mind" as far as acting mechanically, as against "mind," teleologically active.

Error of the sub-conscious entity or self.

postulating a wholly unknown third type of existence situated somewhere indefinitely in space. It is the conscious which makes possible the organisation of cerebral matter, though the two aspects of mind, acting together, are usually recognised as producing the completely new "mental" relation with external objects by their interaction. It does not seem very probable that such motion as that of the spermatozoon, undoubtedly prior to the differentiation into conscious and sub-conscious, can be strictly termed teleological.

In connection with the formation of consciousness, it is of some importance to notice under what conditions mind disappears. Unconsciousness can be induced by lowering the "pace" of mental action, which is partly the effect of chloroform (omitting its purely physical influence on the cardiac functions), or by accelerating the flow of thought under the stimulation of ether. "Pace" of mental action is a highly ambiguous phrase, but it is sufficient in this connection to point out that the rapidity of our conscious activity is probably suited to the rate at which material change takes place among those particular objects which resemble our bodies in magnitude, and which affect us in the struggle for existence. Both of course have "rates" of change only in relation to each other; for apart from mind, as we have seen, the forces which the word change implies would be something different. The conception, however, suffices for our present purpose. We do not think consciously at that rate of millions of vibrations per second which is attributed to the atom, nor at the rate of one complete revolution of the earth round the sun in a year. It is desirable to think a little faster than the ordinary familiar object can move, in case we may have reason to avoid it, and in this way the relative pace of conscious activity may be fixed. If by any artificial stimulant the material brain is forced to subserve totalisation too rapidly or too slowly, that particular form of the teleological which is our consciousness does not

result. For it is essential to our view not to suppose that the teleological and the conscious, or even perhaps, the mental, are necessarily interchangeable terms. The teleological is that which supervenes on and transcends the mechanical, a subject which will be soon discussed, but the Absolute may also contain some other type of teleological activity altogether. It has been pointed out by Ribot in dealing with Attention that the natural condition of consciousness is one of change at a moderate pace. Too great concentration on one idea results in the trance of the Indian fakir or of the mediæval saint, while too little stability ends in the ultimate unconsciousness which is found in certain states of intoxication and imbecility. It is evident that our special consciousness is mainly a device produced by the struggle for existence under peculiar conditions, and perhaps only possible, *in that form*, while these conditions persist. Thus it seems that matter regarded as teleologically active, a property which is scarcely applicable to the sub-conscious and partly only to the conscious, displays its new quality, as involving for us in introspection a new type of existence, in the form of consciousness alone. This is a concentrated form fitted to the conditions under which matter has developed its new property. The latter is thus two-sided from the beginning, because it would not otherwise have aided survival, and it will be found that this comparatively fortuitous incident, occurring before the dawn of self-consciousness, determines for ever the form of the reality of mind.

Psychological nature of consciousness, dependent on continuous change at a rate determined by external conditions, acting on a body of particular arbitrary size.

We have now concluded all that is required for metaphysical purposes on the formation of mind prior to the advent of self-consciousness, but before beginning to consider mind, as it is in man, we must again observe its lower forms, with special reference to their relations with the external world. This involves the problem of psychophysical interaction. But for the present we can now sum up our view of mind. As contrasted with

Recapitulation.

the continuous multiplicity of vibrations coming in from the physical world, the term mind is used to indicate that the neural system becomes so organised as to exhibit in "consciousness" certain sets of sensations, totalised as wholes, for working purposes. Psychologists afterwards lay stress upon the fact that there is mental continuity, but even this would not be the continuity of the millions of physical vibrations. The continuous teleological stream, even if it could be apprehended as continuous, would still be forced to totalise vast numbers of the ethereal impressions before the latter could suffice to produce psychical phenomena. But mind, when self-conscious, actually thinks of its *separate* ideas, and, even before it is self-conscious, acts as though with reference to single ideas. For it works always by that method of comparison which is derived from the necessity for differentiating those objects which are dangerous, through possessing certain characteristics. A chaos of processes in some undifferentiated material would be of no value to mind ; hence it must totalise and stereotype its material into those elements of the cosmic process which, on the whole, have more bearing than others upon its own interests.

CHAPTER VI

PSYCHOPHYSICAL INTERACTION

It has already been remarked that the distinction in the universe which is most truly fundamental occurs by the appearance of an entity, self-consciousness, which apparently has relations in reference to itself. For the true thinker, indeed, it is hard to conceive how there can be an existence which is unaware of itself. But mind at any rate contrasts strongly in this respect with all the other popular and scientific entities, which exist only by their relation to the "external" world. It might be thought that in the relation of the conscious to the sub-conscious this phenomenon is already actual. But neither of these is differentiated in the animal stage as purely psychical, for, taken as such, they are both potential, and all that is truly represented in terms of *existence* at this point must be a continuous neural activity in the case of the sub-conscious, which is on occasions more specially differentiated, so as to control the motor apparatus and set it working. It is not necessary to inquire what is the actual neural correlate of any conscious, as opposed to sub-conscious, event. It is probably less generally distributed, and more sudden in its activity, whether it be stated in terms descriptive of the areas of the brain-cortex or in any other manner. We do not indeed understand what are the exact neural correlates of mental activity, but we are probably justified in stating that the consciousness of an object, which prompts an act of an animal, is roughly

Desirability of a provisional expression of mind in materialistic terms before the dawn of introspection.

paralleled by the reaction of the nervous system *as a whole* to a particular stimulus in an appropriate manner. And this can only mean that all parts of the brain are ultimately involved, but in different degrees and with different complexities of connections. The commotion, so to speak, comes to a head somewhere, and often in the excitation of the motor apparatus. We therefore take mind in this stage, as best represented as a material brain, of such a nature as to have a new type of relation to external objects. This relation is indeed a relation of the brain as a whole, but not equally as to its parts, and thus consciousness might be for the present regarded as the brain totalised or acting as a whole, whereas the sub-conscious must rather be the working of its parts. Consciousness can only flash forth when some degree of totalisation of the whole brain is produced by an external stimulus. This is apparent in the fact that a vast quantity of physical vibrations are required before the sub-conscious impressions can flash into a conscious sensation. Also that which appeals to the majority or the more deeply-rooted of our interests more easily produces consciousness, as is illustrated by the case of a mother, who wakes only at her infant's cry. These interests are not separately represented by different parts of the brain, but apparently by the greater facility for combination attained by certain cortical totalities with reference to each other. But the essential point is that we here find a material mass, the brain, whose identity and contrast-as-a-whole to the molecular entities which compose it is intrinsically dependent, in respect of its peculiar activity, on an ever-varying change in its parts. A man is "the same" by reason of his character, which is an ever-varying adaptation on a fixed principle. Ordinary material wholes, when active, are externally determined, for they maintain their identity by a fixed construction of their parts, and if this construction is altered, the identity as a whole is said to be destroyed. But the particular character of the activity

as a whole depends, in the case of the brain, upon the possibility of an infinite variation in the mode of totalisation of its parts ; thus the same external object does not call up to each being precisely the same conscious totalisation at different times.

When consciousness is thus described as the brain totalised, the mode of its parts' connection playing a rôle of varying relative importance in each totalisation, it is very important to disclaim all materialism in the ordinary sense of the word. We have practically confined "mind," taken as an entity, to the visual and other imagery observed in introspection, for we fully accept Binet's contention in *L'Étude expérimentale de l'intelligence*, which lowers the relative significance of the image in mental life, and regards the conceptual processes mainly as a "directive organising force only," becoming explicit for observation or introspection occasionally in words, images, and acts, and often working best by omitting to form images. But when in the sub-conscious processes the material brain is being organised in a manner which will contribute to teleological action, we really transform the tacit meaning of matter by using such language. We usually assume that matter must always act mechanically, because the only occasion when such an account is not fully satisfactory arises by the activity of our own brains. But it is an assumption that the mechanical and the material are interchangeable terms, since the latter is too vague. The sub-conscious neural activity, no doubt, is only teleological in the sense that it subserves the conscious, for its processes may be mechanically initiated and executed. In fact, if taken as the working of the parts of the brain, the sub-conscious must be purely mechanical. It is only teleological in so far as it owes its evolutionary origin to a differentiation from the embryonic teleological aspect of the amœba. Also it has some claim to "purpose," as being a necessary element in the existence of consciousness. For the

conscious is clearly teleological at times, and the conscious can only exist as totalisations in the sub-conscious. We may state the position as follows : mind *intrinsically* contains both a teleological and a mechanical aspect, but in the flash of consciousness the separate material workings of the brain, which for psychological purposes we term the sub-conscious, are transcended as such. Yet all their essential nature is preserved, for they all contribute to the determination of the nature of the activity-as-a-whole of the conscious being. But, taken as a whole, these parts and their workings *are* for us something more than an aggregate of material activities, for they exhibit a new quality, consciousness, which utterly overbears their nature, in so far as that is merely "material," but yet admits all their activities as contributing to determine its own. Here, then, is presented the term "transcend," usually the stumbling-block of metaphysics. We suggest that it can be exemplified on a smaller scale than in the Absolute, and in a sphere with which we are comparatively familiar. We hope to show that, so far from being a "vain imagining," every process in the universe, *as apprehended by us, and because apprehended by our imperfect minds*, involves an illustration of transcendence. That which we cannot avoid calling matter, when totalised in the brain, with its parts working according to a peculiar plan, is transcended and *is* mind (so far as that can be said to exist before introspection for the purposes of mere animal teleological activity). Thus also infinite ether, made finite (in other words, with some portions totalised), *is* perhaps the new finite type of existence, matter. The occurrence of totalisation is only marked by the appearance of a special *activity-as-a-whole* ; thus the totalisation or making finite of an indefinite potentiality of the material world in "mind" is only shown at first in what we know as teleological action, just as the material atom, if formed from ether, necessarily exhibits at once

a special activity. (We shall, in the ninth chapter, point out that our own apprehension, in introspection, of the psychical stream, as though it were an utterly separate entity, is only due to the character of the forms of our particular minds.) Transcendence, it may be noticed, involves totalisation, but totalisation need not be transcendence. A ball is a totalisation of molecules, and may be thrown as-a-whole by external agency. But it has no intrinsic activity of its own as such, and thus no transcendence or exhibition of a new type of existence for *our* apprehension occurs.

Psychologists lay stress upon the fact that whatever it may be, when analysed, the psychical phenomenon, as such, is perfectly simple. It is regarded as the new type of existence, transcending the varied parts of the material brain, and indivisible, taken as mind, though reducible to material activities, so far as explanation of its particular activity is concerned. Hence arises psychophysics. For when we thus analyse mind into material activities, we have really ceased to speak of the "mind" of psychology, though this peculiar fact itself warns us to sift more carefully the meaning of mind and matter, if assumed to be utterly separate in ultimate reality.

We cannot fully understand what is meant by "transcendence." But we have abundant examples of the invariable presence of the validity of the transcending principle, *for our apprehension*. For us a totality is not the same as an aggregate. Huxley called mind an epiphenomenon. Our view is far more materialistic in a sense. Mind (in the non-introspective animal) is not something over and above matter, whether ephemeral or otherwise, but it *is* matter totalised in a special manner in relation to an external crisis. But we immediately add that pre-mental matter was not *merely* the matter of physics and chemistry. Our view is so thoroughly materialistic as to change the essence of materialism.

Vindication of the term "transcend" and illustration of its meaning from psychological science.

For the probability is that the "material" universe is

such that it has in course of time inevitably produced mind. This is not well expressed by references to "soul-cells." It means that we must examine the implicit capacities of matter, whose possibilities may be unduly limited for cosmic thinking through the too exclusive study of physics and chemistry. Men of science insist that the play of mechanical forces must not be interfered with, yet every one believes that "mind" is directing matter in our bodies. No one has ever seen mind, for it only exists as a separate entity by a self-conscious activity of its own in the human being, an introspective activity admittedly absent in the animal. We need not regard mind in the animal as anything more than that which we observe every day, a mass of "matter" moving as a whole, but in a manner which resembles in its results the ordinary activity of our own self-conscious mind. The animal moves. The river moves. The sole difference lies in the fact that the animal moves in a particular way which we can foresee and recognise, but the motion is probably from a physical point of view identical.

A mentality which cannot rise to the level of introspection should not be classed under the heading of mind, as we know it. For mind and matter exist for us by contrast, implicit or explicit, with each other ; could we conceive ourselves as capable of understanding without being human minds, the animal would appear to us as an active portion, not of matter, but of the universe undifferentiated into mind and matter, as we know them. Neither the conscious nor the sub-conscious is more than *active* in the animal, and therefore we are justified in regarding them as matter, or, more strictly, a portion of the universe, working as a whole and in parts respectively according to a particular method. When there is direct experience in introspection of the new type of existence, the psychical stream, we will at once allow that there is "mind," but until this occurs (and no one is likely to attribute deliberate introspection

to the animal) it is not scientific to assume more than is necessary for explaining the observed facts and processes. It may be objected from that point of view, expressed particularly by Adamson, that the cut-and-dry ideas objectified in introspection as a stream of mental events (if taken as actual mental existence or entity) land us in the error of Hegel, who regarded it as possible that ultimate reality consists of "entity of intelligence," in a too limited sense, through the partial inadequacy of his original conception of the nature of human mind. But when for our purpose we speak of the objects of introspection as entities, we regard them only as we might regard ordinary physical objects taken apart from the mental activities in us necessary to their production in any particular form, and avowedly not ultimate, as such, for metaphysics, but capable of throwing light, perhaps, on the nature of mental apprehension.

It will probably be remarked that animals can feel pain; this is a psychical phenomenon which does not require deliberate introspection, and indeed, in "mere feeling," we approximate to Adamson's undifferentiated experience, before subject and object are separate. It is probably true that pain, as usual, is the road to a higher degree of existence, and that in pain mind, as actual, truly has its birth. But there is certainly a stage in the evolution of mind in which the motions of the creature are obviously teleological, yet some entomologists are not inclined to attribute the capacity for feeling pain to many insects. Moreover, painful feeling-tone reflected on is a different thing from pain as merely felt, and all psychologists are aware that even within the ranks of humanity the capacity for feeling mental pain varies greatly. It is not, however, suggested that pain is absent from the animal world, but merely that there is a stage when we observe the full play of the conscious and the sub-conscious activities, as illustrated by the advantage which we see taken by animals of former experiences, but when there is no reason on

Pain as the
probable origin
of introspection.

scientific grounds for any conviction that the creature can be conscious of pain. In such a case it is claimed that there is certainly no mind, even though the proto-zoon, for instance, may act in a teleological manner. There is merely a higher relation in the "material" world, which might be called the teleological relation, implying that a type of existence, which will soon be actual, is now fully active. That it is possible for such a transient stage to occur is evident from the facts of the formation of the physical world.

The double-aspect theory accepted in principle.

It is desirable to compare this view with the "double-aspect" theory of mind and matter. We have not yet reached the problem of psychophysical interaction, with a view to which this theory is generally developed. The present statement is, as usual, a more specified form of a previous doctrine, but it is hoped that the difficulty of psychophysical interaction may be evaded by this means. We have refused to admit that the classification of physical and psychical affords a sufficiently precise distinction, which could apply to all the facts, as they are observed in the various stages of evolution. We have, in fact, a time in which the organism is psychophysically active, but is not psychophysical. The double-aspect theory is indeed accepted, but we wish to be more precise as to the nature of the entity, of which we apprehend two aspects. And by taking the simpler example, in which the purely psychical stream of introspection is non-existent, we may arrive at a conception as to the manner in which the two are united.

In the case of the animal, then, the parts of the brain are transcended for the purposes of teleological activity, though the actual mental type of *existence* is not yet formed.

Transcending in the case of man is not parallel to that which is predicable of the Absolute.

We must notice that we cannot call this case parallel to that instanced by the Absolute, as represented in *Appearance and Reality*. For the Absolute is complete existence, no longer self-contradictory, but full reality. But though for the purpose of teleological

activity the separate processes of the brain are, in the case of the animal, transcended, the result is by no means an all-inclusive new existence. The result in the lowest animals is a special type of activity, implying potentially a new type of existence, only because we are aware of what has actually followed in the career of evolution. In man, however, there arises an entirely new type of existence, which does not, as such, include the material entities of the physical brain. For psychological introspection does not reveal to us mind, as transcending the material parts of a physical brain. It simply reveals mind as opposed (on reflection) to matter. It is only by their modes of activity that we conclude that the two are intrinsically connected. The transcendence, therefore, is imperfect. Either it fails, as in the case of the animal, to produce a new type of existence, and merely exhibits it to us implicitly in teleological activity, or, in producing it explicitly in introspection, it cannot give us the transcended parts together with the new existence as a whole. We all knew of mind long before the physiological theory of the brain was developed. This difference between transcendence as applied to man and to the Absolute will appear essential when we consider the nature of the reality of man. The Absolute exists as the Absolute by the fact of its complete transcendence of all entities and types of existence, transmuting them in its own essence, but also allowing them their own degree of existence for themselves. This is not the case with mind, which is revealed by introspection apparently as an utterly new type of existence, scarcely to be compared on any ground with matter, and always as meaningless, if stated in material terms, as matter, when described in mental terms. For this reason ultimate philosophical dualism at first sight has always seemed truer than monism.

Before proceeding to the problem of psychophysical interaction it is necessary to admit that it is not a full

statement of the truth to say that brain totalised stands for mind in the insect stage. Also, it must be understood that the somewhat vague use of the term "brain" does not vitally affect our description. The entire nervous system is no doubt remotely involved, and in a human being even the spinal cord ultimately has a share in the production of consciousness. Without the presence of certain cerebral developments we do not observe self-consciousness. But it is certain, at all events, that a considerable totalisation of neural material is needed for the production of consciousness and it is not of importance to know to what extent this totalisation actually corresponds with any given portion of the nervous system, such as the brain. It is also significant that the human brain is capable of acting as the basis of more than one psychical self, whereas we could hardly regard this phenomenon as possible in an animal. Of course an animal has not yet developed a personality which can be split up. Severance of brain connections is generally regarded as the cause of the phenomenon of multiple personality, but it is evidently necessary that the neural systems which are thus disconnected should have attained those proportions which we find in the human brain. Probably it is harder to effect and maintain totalisation in the more complex structure, and we know that the opposite type of being, the man with a "strong personality," is characterised by the comparatively complete organisation of his psychical phenomena under marked traits of mind and with reference to fixed and lifelong purposes.

Illustration of the "material image" of apprehended objects as the external term of the teleological relation.

Returning to the statement that our description has not been complete, it is desirable to point out that our higher mental relation, to which reference has been made, is a reality, not only on the side of the organism, but also on the part of the external object with which the relation exists. There will be two types of psychophysical interaction, but the first will not involve us in that collision with the laws of physical science which

the term interaction seems to imply. The chapter on physical individuation has prepared the way for this observation. From the point of view of physical science it is wholly irrelevant that we term and apprehend a certain congeries of molecules as a ball or a table. If scientific physical existence means anything, taken by itself, it means existence corresponding with and adequate to activity. It is because the atom or electron "explains" the activity of ordinary bodies, that men of science insist that these are the true physical entities. The ball, taken as a whole, means nothing for the man of science, who at once dissects the inadequate totalisation and makes no further reference to it. "Nature" would say of the ball lying on the earth that there is a difference in the cohesive force between the ball's molecules and their companions, and between the earth's molecules and those of the ball. There would be little reason for reference to the ball as a whole, except when it has a separate motion of its own. It is maintained, therefore, that in mind we find something new in principle. But by asking whether it is a new entity we merely confuse matters. For we should thus assume that the physical world is once and for all limited to atomic activities, whereas all observations tend to show that the various entities are continually changing and reorganising themselves, and developing new relations and qualities.

Yet we must provisionally stereotype Nature as something definite, and thus confine ourselves to the accounts of physics and chemistry. In contrast, therefore, with the purely molecular and chemical activities of these sciences, the new teleological relation, to which reference has been made, casts over Nature's atomic skeleton the "mantle of totality"; but this mantle is not itself an example of the transcendence of an aggregate of entities in one totalisation. It affords an admirable instance of the impossibility of doing justice to every aspect of the universe if we confine ourselves

to the stereotyped types of existence. This delusive material image, as it will be termed for convenience, is the result of the necessary form of our apprehension of material bodies as *wholes*, yet their intrinsic nature while material at all really lies in their *atomic* activities. But this false apprehension is an essential element in the career of an animal, if we take into account its teleological activity, which is always directed towards some object as a whole. Can we say that this totalised appearance is equally essential to the existence of the object apprehended? Hardly so, because if we adhere to our conception of atomic activity, the object existed before there was mind, though in a sense (as explained in earlier chapters) which would have little meaning for our minds. For existence and activity were not then differentiated in their present familiar guise. On the other hand, on the animal's side the teleological aspect is essential, for it is partly by the activity resulting from such apprehensions that we distinguish the animal from the inorganic world. But we cannot possibly omit the "material totalised image" of the object which the animal observes, for the animal's mental relation cannot exist without it. Living creatures can never see atoms, but only molar masses, and even if we could invent a microscope which would display the electron, it would probably be invisible on account of its rate of speed, and could only be apprehended as at least theoretically capable of being divided. But such ideas are unnecessary, for we are concerned with the actual facts of mind's apprehension. If mind ever attained to vision of the ultimate material entity, it could not but apprehend it according to its own deep-rooted "form" as a coloured totality. It would be precluded from truly apprehending any ultimate indivisible entity, because it has been actually developed in evolution with reference to aggregates of material entities.

We may thus observe a further reason for describing mind in the animal, merely as a higher relation of a

particular entity to the external, and not as an entity itself. For we should scarcely be in error in stating that, if there is anything truly and exclusively representing "psychical" existence at such an animal stage, it is not "in" the organism at all, but it is this "material image" of external objects which are observed. It will be remembered that one aspect of real mind, when it finally appears, is visual imagery, the reproduction in a fainter form of this totalised aspect of physical objects.

There is not probably visual imagery in the insect, but there is its prototype, the totalised material image of the external molar objects apprehended. This appearance, as such, is not part of the purely physical world in the absence of mind, for, unlike the atoms and material forces, it takes no share in the activities of matter. The physical forces continue to act, whether embodied in totalised material images of molar objects or not, and when the material images come on the scene through mind's apprehension, they have no effect on the working of material forces.

The problem of psychophysical interaction compels us to ask whether and how the other term of the teleological relation, which is situated in the organism, takes effect upon matter. For without anticipating our answer on this point, we know that in *some* way there is a difference between the motion of a stone and the motion of a child. For the present, however, all that is needed is a clear statement of the view taken of our higher or teleological relation. Firstly, it absolutely requires the apprehension of an external "other," namely, a totalised material molar object. The term of the mental relation, represented in the organism, cannot be as yet truly regarded as a new type of *existence*. It is best described as a particular type of brain totalisation resulting in teleological activity. We approximate to a new type of existence when we deal with the term of the mental

The "material image" or "mantle of totality" is the prototype of the visual imagery, which is afterwards a subject for psychological inquiry.

relation given in the totalised observed object. For there is at any rate something apprehensible ; there is a spectacle, which we may term the material image. But it has no activity, as such ; the activity of the object, to which it is superadded for our apprehension as a mantle, belongs to another sphere altogether, a sphere only known to chemists and physicists. We do not doubt that ultimately the essence of "mental" *existence* will be found in the organism, but so far it is a mere teleological *activity* on that side, and thus the only factor in the whole inquiry which we cannot state in terms of material existence, and which is independent of material laws, is the observed "material image" of the external object. It is not subordinate to the material laws of activity, because it is, as it were, a drone, and does not work at all. We can, if we wish, describe it as pseudo-psychical, but we cannot omit it, whatever we may call it. It is indeed a "mere appearance," yet can only be due to some reality, partly or fully evolved. It is the first product of the activity of mind, the externaliser. And it is not adequate to reality, for it has to be corrected by scientific observation and experiment. It is a strange hybrid, a pseudo-existence, by which mind may climb to its own real existence later in the career of evolution, for it provides material for all ideas, and it furnishes a lever by means of which mind develops its unique type, both of existence and activity, which differentiates it from the Absolute on a principle presently to be considered.

The material image is the first product of mind, regarded as a totalising principle, which necessarily externalises.

We have indeed treated "existence" cavalierly in stating that psychical existence, if apparent anywhere in the insect stage, should be represented by the "material image" of an *external* object. Yet we have been led to this apparent absurdity by a strict adherence to the ordinary meaning of the terms "existence" and "activity." If anything exists for us, it must be something directly intuited or observed, either by the senses or by introspection, without reference to its activity. As

has been pointed out, this description, which for merely practical purposes is tacitly assumed to be correct, really applies to nothing in the whole universe. There is no existing atom which does not also move, and mind apparently exists only in being active. But we cannot leave our course and invent something which ultimately means nothing for us at all. We must follow "whither the argument leads," and even if it compels us to assert that mind, though not yet strictly existent, can modify physical existence in some sense, and that the psychical is more nearly represented "outside" the organism altogether in the case of the insect, this is no reason for shirking the conclusion, and introducing chaos by suddenly changing our terminology in the middle of the investigation. For it is in reality equally meaningless to talk of *psychical* existence *inside* the organism, and we cannot be too thoroughly accustomed to the conception of provisionally separating the idea of mind from that of space. But we cannot also help provisionally localising mind and its effects somewhere to suit our habit of ordinary intuiting, and on this level of thought we are therefore justified in pointing out that the only special effects, peculiar to mentality, at the insect stage are not "in" the visual imagery of the brain, but "outside" the physical organism altogether. It is certain that if we accept as guides some definite object or objects, guaranteed by the intuition of our senses or by direct introspection, and adhere faithfully to these throughout the inquiry, we shall not be in error, though, like Proteus, they may appear in a different guise at each step. That particular type of *existence* which we call mind is only apprehended by our own introspection. We cannot *see* it either in ourselves or in the protozoa, and we cannot introspect for the protozoon. And as we know that introspection is already rare even in the savage, it is best to adhere to the facts observed in sensuous and introspective intuition and not assume in the world of protozoa the existence

“mind,” even implicitly, as experienced in pain. Mind is an “existence” which as such consists in the act of realising that it exists. As for the “material image,” that is truly “existence divorced from activity,” and therefore ultimately no existence at all. But it is a *necessary* phantom which mind must conjure up owing to the peculiar conditions under which it has been developed.

Quantity and quality in connection with the material image and the forms of the mind.

In this connection it is worth while to consider quantity and quality before proceeding to psychophysical interaction. It is almost a commonplace in works dealing with physics to point out that in “matter” we have the purely quantitative. Qualities result from a particular arrangement of atoms in the molecule, which are then apprehended by mind quantitatively. This also affords an example of a species of transcendence. The coloured molar object includes and transcends the whirl of vibrating colourless atoms whose activities essentially determine its character, but whose entities, as such, are quite lost in it. It is not, as also in the case of mind itself, a true example of transcendence, such as is exemplified in the Absolute. But it is another confirmation of the truth of a conception, which has long played so important a rôle in metaphysics. We are, however, specially concerned with a different aspect of this phenomenon. Mind apprehends everything as qualified, but only in virtue of a quantifying process. For let us again consider any actual process of apprehension. Mind (for we must always speak of it as if it existed in the full sense ; continual reference to totalised brain acting in a certain way would be unwieldy, when it is not necessary for lucidity), mind at a glance apprehends and stereotypes a coloured molar object. Its universe is practically shaped in terms of the optic nerve, as it were, rather than in terms of “mind.” But upon further consideration we see that the colour is only apprehended as such by tacit comparison with a memory of other colours. Blue is blue, because

we have known red, yellow, and the other colours. Part of the special skill of the artist consists in his greater delicacy of perception in discriminating colours. Where the novice sees the blue sea, the artist perceives an infinite variety of hues. It is believed by some that the Homeric use of the word *γλαῦκος* indicates an imperfect appreciation on his part of our modern colours. Quality and Quantity thus go hand in hand, corresponding to the totalising and comparing "forms" of the mind's activity. For the atoms lacking nearly all qualities, mind substitutes the molar object with many qualities, as its ordinary unit in apprehension, but each of these qualities becomes that which is thus apprehended by tacit comparison with similar properties in various other objects. But mind makes up its new "material existence" by assigning to it qualities drawn through comparison with various other objects. Material existence is real for mind, because it is not merely coloured, but also resistant, heavy, hot, and the like. It is as taking part in the whole interrelated scheme of things that it has reality for mind. And thus the universe as a whole can never be fully apprehended by our consciousness. For it could only be so apprehended as exhibiting a single great Quality, and we have seen that a quality acquires its meaning by implicit reference to other qualities, that is, as treated quantitatively. The origin of mind in a world apprehended as consisting of plural material processes thus remains indelibly engraven in its mode of working, as also its equally important habit of objectifying or externalising. This is probably due to the fact that mind totalises only parts of the universe, and that in the struggle for existence it was the object external to the physical organism which affected its chances of survival. Therefore mind is mainly developed so as to deal with this emergency, a trait which remains characteristic for ever, as will be shown in the following chapter.

It must not be supposed that our description of the

Statement of
the problem of
psychophysical
interaction in
the terms
which are
being used
throughout.

insect's mind, as brain totalised with reference to that which we know as teleological activity, has been put forward as solving the problem of psychophysical interaction. So far that problem remains untouched. For we should certainly be deceived by words if we believed that we had got rid of the disturbing psychical elements merely because we had pointed out that there was no ground at certain stages for talking of psychical *existence*, if by existence we mean that which we actually apprehend by our senses or by introspection, without referring to its activity. For existence, in this sense at least, has a real meaning for us. Brain acting as totalised is a thing unknown to Nature, which we must regard as the artificer of atomic and molecular activity. Otherwise we can assign no definite meaning at all.

It must be realised that by our consistent treatment of Nature as atomically active we have barred teleologically totalised activity from belonging to the "material" world, even though we must still give it a material existence as its basis. We should otherwise have committed an unpardonable error in rejecting the term "mind," unjustifiable as is its application, as the basis of the insect's teleological operations. For at least the word "mind" definitely repudiates connection with matter, and it is plain that there is somewhere a gulf, which is not hitherto bridged, whatever we may call its banks. In our terminology the problem of psychophysical interaction becomes the question: How can the totalised activity of the brain alter the atomic action of its own parts, when it *is* nothing but those atomic activities transcended, and only appearing late in evolution to introspection as a new type of existence?

The neural atomic action can only be altered by true physical, that is, atomic activity, and our "higher relation" is not concerned with this; men of science would rightly repudiate its intervention in such a matter. There has lately been considerable discussion among the physicists on the subject of the possibility of

life exercising a "guiding" power, without altering the total sum of energy in the universe. Mathematicians also have treated the question from their point of view. According to our custom we shall consider an actual occurrence, in which psychophysical interaction takes place, if it ever occurs. Psychophysical parallelism is of course a mere stopgap, by which psychologists may continue their work without interference; if taken as an ultimate explanation, it would be merely another term for a miracle. The double-aspect theory, on the other hand, may perhaps be made more precise by our present inquiry.

The totalised activity of the brain cannot alter its own atomic activities. The need of additional atomic activities cannot be evaded.

Let us consider some actual example of this possible process. A tiger sees a deer, and undoubtedly a motion of its limbs results which would not have occurred but for its appreciation of that spectacle. The deer, taken as a whole, has a special meaning for the tiger, appealing to its sense of hunger. The teleological relation is thus at once set up, though this relation does not require a mind, as "existing" in our sense in the tiger. The tiger then creeps towards the prey. This motion is due to the setting in activity of a great number of levers, so to speak, directed from the brain. Now an engine by definition is an apparatus by which force applied at a point and in a direction is exerted at another point and in another direction. The ordinary lever affords an illustration. By the proper construction of the machine, a very little force applied may cause the liberation of a large quantity. Such is the principle even of an explosion, dependent on the fact of latent energy, due to position and other causes. If our machine be only cunningly enough contrived for the purpose of storing up energy, the motion of the limbs, involving that of the whole body, could be effected with the help of a *very* slight initial impulse. The muscular system, together with the brain, which controls it, is just such an extraordinarily complex system of levers. Yet, however complex it may be, it cannot produce the initial impulse out of itself. But

Concrete illustration.

if we consider the tiger gazing at the deer in connection with physics, it will be apparent whence the mechanical energy providing the initial impulse is derived. A chemical or mechanical change in the retina is needed for the possibility of sight. This change is ultimately due among other causes to the ethereal vibrations, which we apprehend as "light." Here, then, is the source from which the energy required is transferred. It is not in the organism at all.

The living organism is such that the smallest external activity, such as that of ether, affecting the optic nerve provides a sufficient lever.

The organism is an intensely complex contrivance for responding to the most infinitesimal degrees of externally produced activity. However slight this action may be, it is essential to the possibility of the first psychophysical interaction. In describing mind as a relation to the external, we had not merely in view consistency in the use of terms. It is an absolutely essential factor in our theory of action of "mind" on "body." The system with which we have to deal should be regarded as triple, not merely double.

This system consists of "mind," "body" and the external object. In the case of touch, no additional medium, such as ether, is required, the mechanical pressure affording the necessary initial impulse.

The metaphysical necessity of an "other" for mind illustrates this position on abstract grounds.

Hegel emphasised the necessity of an "other" to the development of mind, and this principle must be carried much further. Our teleological relation indeed is only a relation between totalities, but it occurs side by side with the introduction of real energy of the atomic type from the external environment, which can of course affect the atomic activities of the brain.

There are several probable objections to be answered. Motion of the body in human beings can obviously follow a train of reflection, the energy for which is certainly not derived immediately from the environment. But self-conscious reflection is only possible after there has been at some period an original sensuous activity, which provided the materials utilised later for conceptual processes. Thus the motion may still be ultimately

due to the original ethereal impact. The tiger may not move for a minute after he has lost sight of the deer, and if he can delay at all, the length of time elapsing is not essential to our principle. The immediate inrush of a vast crowd of external vibrations soon produces in the brain a never-resting play of forces; and thus the initial impulse is always available, though we have not yet indicated how it can be guided. We must especially emphasise the fact that the word "external" is ambiguous. Certain parts of the brain may play the part of "external" to others when we are dealing with the merely atomic activities.

It is, as having a teleological relation, that the brain is active as a whole, and though we could not use that activity to explain atomic changes, we are now justified in pointing out that on the atomic level the atomic activities of one part of the brain must often play the rôle of the ethereal vibrations to the other parts.

A locomotive, taken together with the driver, is in principle identical with a living organism, for its complex machinery is merely an extension of his muscular system. If he is separated from it, the driver cannot produce such large effects on the physical world, and the case would be similar in principle if his leg were cut off. We also know that part of the brain can be removed, the only result being loss of power in a certain direction. From Nature's point of view the organism and its environment may be regarded simply as a continuous interaction of various types of atoms inclusive of varying processes. We find in this fact the reason why the "conscious will," when at length differentiated from mere physical activity, can only direct certain of the activities of the body. For most of the physiological processes are independent of the will. As soon as the purely psychical phenomenon is evolved, independently of the so-called "external," some one part of the brain must be acting the rôle of "external," or there can be no "psychophysical inter-

In the case of introspection or purely intellectual activities, which do not occur till late in evolution, one part of the brain may fulfil the rôle of external to the remainder.

action." But the whole brain is required, before we can account for the management of all the physiological functions, except the frontal lobes, which are supposed to be in some way especially "connected" with the "higher" powers of mind.

Thus conscious will cannot control all the somatic processes. It becomes differentiated, a conscious will, only by losing control over some of them.

Hence it seems to follow necessarily that the conscious "will" can never manage all the somatic processes and still be a differentiated will. The essence of the arrangement lies in the fact that some parts of the brain itself should act as its "external." The observed facts correspond with our theory of psychophysical interaction, for we not only explain the obvious observation that our bodily motions are somehow "directed" by "mind," but also the physiological observation that some of our bodily processes are *not* managed by conscious "mind." The motor apparatus is, so to speak, the favourite of "mind." If it were not so, neither mind nor its apparatus would have survived in the struggle for existence. Experiments show that hard intellectual work does not appreciably increase the secretion of brain-products, and this is not surprising since it is evident that only a small portion of the brain is directly playing the part of the "organism" in this connection, the remainder supplying, as though from an external source, the initial impulse which is requisite for psychophysical interaction. The latter, presumably, must occur as frequently in purely intellectual work as in any other kind of labour.

We have thus suggested a theory of psychophysical interaction which at least satisfies the crucial demand of physical science, that Nature recognises her own forces alone and never brooks the interference of "mind."

But though we perhaps accounted for the energy which guidance needs, we have not said anything on the guidance itself. The vibrations, acting on the retina, lead to opposite results in the case of the tiger and the deer when suddenly coming face to face, and this fact

must be considered. We must return to the simplest possible processes, if there is to be a chance of attaining the truth. The ethereal vibrations, resulting in chemical and electrical action in the retina and the surrounding nerves, provide the impulse, which will be available, so that physical motion can result. It may of course be confined to motion of brain-molecules, and in this connection it is important that in cases of so-called "repressed energy" there is usually an outlet provided in some irrelevant direction. Thus the energy transferred by the impact of sense-vibrations during extreme concentration upon intellectual work tends to be dissipated in some undisturbing motion, such as twirling the moustache or tapping of the finger, and thus concentration is preserved. If, moreover, we return to the protozoa and their kin, we may obtain some solution of our problem. We here have life in its earliest form, and the new relation established is shown, for instance, in the motion of the spermatozoon towards the ovum. We have selected the spermatozoon, a choice which needs a preliminary qualification. This creature is not exactly an "independent" organism. Thus it does not itself feed, but during its existence as a spermatozoon must live on the material provided beforehand, as in the case of the bulb of a plant. But it contains a chemical series, and displays the unique relation towards the ovum which is important from the metaphysical point of view. It may be objected that this attraction is of a chemiotactic character. But it does not matter for our purpose what is the exact scientific nature of this motion. The essential point is that it is exhibited by objects that will "live," and that it is of an attractional character.

In laying stress upon the logical priority of the attractional relation over the evasional, it must be remembered that although it is not easy to point to an organism in which the evasional relations are completely absent, yet from an evolutionary point of

Though we have suggested a possible source of the necessary atomic activities, no mention has been made of the mode of guidance.

view it seems likely that they are rather of a secondary character. The spermatozoon is not concerned with evasion, but in addition to the ordinary physical and chemical changes it has a special attractional relation to the ovum. We here have a case of an external stimulus *necessarily* resulting in motion towards an object.

Biological
priority of the
attractional
relation over
the evasional.

The amœba on meeting some objects enfolds them, while others it touches and disregards. But the question of turning away from anything hardly arises at this stage. A "frightened" amœba could scarcely be imagined. External stimulus produces motion towards an object, or, as a rule, no motion at all, the transferred energy being presumably diverted to digestive processes or some quarter similarly irrelevant for our present question. Also, there is not strictly such a process as chemical repulsion. Dissolution of chemical compounds depends on the juxtaposition of some element with a superior attractional relation for one of the elements or the compound. Or again, the application of mechanical energy in some other form dissolves an unstable union, in which two elements had been combined, whose attractional relation was relatively weak. Even the repulsive force of certain forms of electricity and light, which would not be here involved, seems likely to be reduced to the same principle. Possibly material repulsion, as an independent fact, is only stereotyped as such by mind; it merely appears on the "border-line" between ether and matter. From the beginning we find an arrangement by which the effects of external stimulus are, according to their significance in reference to the vital relation, productive either of such processes as the internal changes of digestion, or, with the help of the development of limbs and external leverage, responsible for the motion of the organism as a whole. The possibility of "mind" guiding "matter" seems to lie in this fundamental necessity of life. The organism must feed, and must move towards objects suitable for

food, for even plants must push their roots in various directions. Consequently from the beginning stimuli *automatically* take effect in one of two ways, and it is in the fact that this choice is possible (in a sense) *from the beginning*, that the potentiality of real guidance at a later stage is involved. In the differentiated nervous system the brain-areas which are concerned with the reception of certain sensation-stimuli are associated with the motor apparatus. The primitive direction of the motion of an organism is automatically *towards* the object perceived, or otherwise the stimulus-effect does not generally produce motion-as-a-whole at all. Externally-derived energy will either be directed so as to move the organism *towards* an object, in accordance with the vital or teleological relation, or else it will run off for irrelevant application to digestive functions or elsewhere.

But its application to evasional relations is essentially secondary. Throughout the whole career of evolution this characteristic of mind is apparent, namely that the mental relation is an attractional one at bottom. Herein it simply follows the example of physical nature. If there is no chemical affinity, there is mere indifference, not repulsion.

The choice is not really between attraction and evasion but between attraction and its inhibition by other causes.

This positive attractional character of the teleological relation is necessary to the possibility of inhibition and resulting guidance of motion in different directions. Such evasion involves the co-ordination of a particular set of muscles. All that is required for the guidance of the externally-derived energy is the connection of its path into the brain with motor areas representing different co-ordination of muscles. The loin-muscles have a co-ordination when we turn round to fly, different from that arrangement which is associated with a straight course ahead. Probably pain plays an important part in the development of this arrangement. A spectacle which has once had painful results is naturally associated with the arrangements which

co-ordinate muscles, of which the net result is "turning away." In the lower forms of life, the ordinary fish bites at everything which looks like food, and takes its chance of making a mistake. In the struggle for existence those animals tend to survive which effect the right co-ordination of sensory with motor brain areas. For though it is as totalised that the sensation has meaning for mind, there is no reason why the atomic activities, which are its component elements, should not atomically affect the atomic action of the brain. Thus the essential point in our present view lies in the statement that the choice is not between moving towards an object and evading it. The original mental relation, primarily and intrinsically, involves attraction *towards* any object, which is suited to standing as the external term of the mental relation. Later is developed the evasional relation, dependent on experience, usually of a painful character, whereas the turning towards an object is merely intrinsic in the meaning of the original mental relation, as is shown best by the spermatozoon. This process can probably also occur without pain, though pain must hasten its development, those creatures tending to survive which developed, by natural variation, the co-ordination of certain sensation-areas stimulated with certain combinations of muscles. But the primitive organism lives by assimilating others, and generally takes its chance of being assimilated itself. It does not quickly develop the power of evasion. This capacity appears as a secondary development in the struggle for existence. But when later in evolution we waver between attraction and aversion, this hesitation is only possible because our brain is a reservoir of energy, partly latent, which can become kinetic, or be diverted, if necessary, to such irrelevant purposes as digestion. It is thus partly the complexity of the brain which enables mind to exercise choice. For though the atomic activities must take their course, they may run off automatically into channels, such as those connected

with the liver or the fingers, which are unknown to consciousness. Meanwhile consciousness, for which part of its own brain is thus ready to play the rôle of the external, is enabled to hesitate and choose at leisure between various courses of action. Again, the explanation of the destruction of choice in the phenomena of hypnotism and fascination is the disconnection of totalised brain-areas, whose interaction is usually assured. Thus the problem can be better stated, not as the difficulty of understanding how "life" or "mind" can guide matter, but how the living organism acquires the power of turning *away* from objects with which it indirectly has a teleological relation. Biologists also regard the brain as a special development of the nervous system, of which the spinal column remains as the more generalised reminder; without some such differentiation the possibility of evasion would not arise.

It is reasonable to conclude that, as evolution adds more and more to the brain, the following occurrence results. It is by contrast with the organic totalisations in the brain, which, for the time being, act as the special basis of the teleological relation, that other organic totalisations become *automatically* connected with the motor apparatus that is destined to produce evasion. If the tiger springs at the deer, it follows the *ordinary* course, resulting from its possessing the attractional mental relation with the deer. But the case of the deer which turns to flee is different. Experience stored up in the course of evolution has connected particular co-ordinations of muscles (which involve evasion) with such spectacles as that of the tiger, which arouses the susceptibilities of certain combinations of the visual areas. Hence evasion is possible, because the brain is not completely synonymous with the motor apparatus, the latter being only represented in a part of the cerebral areas. This is also illustrated by the fact that on the level of the spermatozoon, before the genuine nervous system is differentiated at all, attraction and

The inhibition is possible, since the original proto-plasmic mass is presently differentiated, and it becomes possible for considerable totalised portions within the whole organism to act mechanically in contrast to the teleological action of the organism as a whole.

indifference are the characteristics which occupy the observer's attention. The peculiar nature of its motion, of course, complicates the question. But on the whole, in proportion to the increasing differentiation of nervous organisation, we find, as evolution proceeds, increasing power of avoiding objects, which experience proves to be dangerous. There is indeed no absolute parallel in development, for the nervous system is not constructed solely with reference to bodily motion. Were the whole organic totalisation to be concentrated on the motor apparatus, we should only find the regular attractional mental relation displayed, a higher form of the force shown in gravitation and chemical action. But under the present circumstances certain combinations can act automatically, not indeed in opposition to the teleological relation, but so as to produce an effect which, being atomically produced, results, as it were, irrelevantly, in a reversal of the ordinary attractional relation. The latter, though not necessarily concomitant with consciousness, must yet appear teleological to us. The actual motion of the whole body by means of its limbs is produced by the atomic activities, and these being atomic, owe no allegiance, so to speak, to the teleological relation of the organism as totalised. When even the ordinary attractional relation occurs, the atomic activity, subserving it, has no necessary allegiance to deliberate self-conscious purpose. A certain movement of muscles is always ready to correspond with the attractional relation, and another movement seems to result in its direct reversal, but in reality neither type of motion, when resulting from already differentiated *parts* of the whole organic cerebral totalisation, is concerned with the teleological relation at all. Through becoming differentiated, and thus ceasing to represent the whole being, both types of motion become purely mechanical again. Similarly we have large *inorganic* masses formed in the body, such as the bones. There was a system of levers

connecting a certain introduction of energy with the moving of a certain set of muscles, and later in evolution more levers were added, which moved other muscles. The new co-ordination persisted, for, in relation to the external world, it happened to give its owner the useful power of avoiding dangerous objects. But in the case of the spermatozoon, before there were either muscles or nervous system differentiated, the creature merely acted as a whole in obedience to the blind teleological relation, or else refrained from action altogether. There were no muscles to make motion possible in any one direction more than another. The peculiar type of amœboid motion is well known. Clearly it cannot go far in the direction of evading objects, though chemiotaxis may help it in some respects in this matter. But this is not identical with muscular motion with a view to evasion. Evolution at first probably tended to produce a set of muscles, suited to aid directly that teleological relation, which was logically prior to their existence. For the organism gains no advantage by avoiding enemies, if it can get no food itself. Then another set of associations of muscles and sensation-areas was probably formed, and the contrast thus established afforded a means to the development of real mind. For we can now consciously recognise, by contrast and tacit comparison, the results of the activity of the teleological relation, as the desire to survive, and for this purpose evasion is often as valuable as attraction.

Thus we observe that again there is, in a sense, retrogression after the amœboid stage. For part of the physical mass of the organism now acts entirely without direct reference to the teleological relation, either in turning the body towards or away from dangerous objects. But being still a part of the nervous organisation as a whole, it is thus able to set up the unconscious contrast, which gradually evolves conscious mind in place of the comparatively blind teleological relation of the amœba. This result is only achieved

It is essential that there is in a sense a certain retrogression in type of activity to the mechanical by the parts of the organism specially connected with the motor apparatus. Similarly in the large organisms there is a great proportion of non-living material.

Priority of the attractional relation over the evasional is also illustrated in psychology.

Recapitulation.

through the new entity "mind" restricting itself perhaps (in its direct physical "connection") to a smaller area, differentiated in the whole organism, namely, the frontal lobes of the brain. (We are not, of course, considering evasion and attraction as self-*recognised* psychical phenomena.) Similarly, after the amœboid stage, a greater part of the organism gradually ceases to be protoplasm, and becomes dead matter, in order to facilitate the attempt to nourish the remainder. Talons and claws are dead matter, yet very effective in providing food.

The researches of psychologists support this general view of the precedence of attraction over aversion. Primitively we believe, until we are forced to disbelieve, a point on which Prof. James lays great stress.

Belief is prior, and we accept unless there is a special reason for refusing. In late civilised life caution may become a habit, and in time the struggle for existence teaches it to savages and animals. But in the animal stage there must be a special reason for evasion; usually there is attraction or indifference. The psychologist is likely to see the strongest argument in favour of the essential priority of the mere attractional teleological relation in his own science when dealing with animals and children.

Our view, then, of psychophysical interaction is as follows: the atomic energy needed is derived from external sources, while the "guidance" is possible, because the agents used, the muscles, have no teleological relations as muscles, and are automatically established, subsequently to the prevalence of the primitive and merely attractional teleological relation. Certain types of objects can thus, by being apprehended, move certain co-ordinations of muscles. In the case of the martyr deliberately moving towards the objects to which he has aversion, the physical correlate of his mental activity must be a further inner totalisation of areas and connections representing the consciousness of will. These would be connected with the motor areas,

and served, if necessary, by most of the remainder of the brain in the rôle of the "external." We cannot of course point out in the brain these areas and name them. But all that is required is the possibility of one part of the brain acting as external to other parts, on the analogy of the external energy, lent by ethereal vibrations to the cerebral processes, and in this case seeming to provide the only type of explanation of psychophysical interaction which could be accepted on grounds of physical science. It is obvious that on this view it is inconceivable that self-conscious reflection could arise, save at a late period in evolution, and it must ensue on a long course of ordinary sensuous activity, which required the transference of energy from sources external to the physical organism.

CHAPTER VII

MIND IN MAN

Pure meta-physics has usually analysed the significance of mind as it appears in man only.

WE have now reached the point at which it is possible to consider mind in its familiar form, as exhibited by the human being. Metaphysicians have been too prone to confine themselves to this form of mentality, but we have perhaps given sufficient reason for the belief that in its earlier forms is to be found the elucidation of mind's peculiar type of activity, and that our appreciation of philosophical "validity" need not exclude a respect for the claims of "origin." Psychophysical interaction, however, in the case of man does not require the application of any different principle. Mind, in introspection at any rate, becomes a real entity for us in the human being. But it is not suggested that this entity, as it appears to us, can possibly take dynamic effect upon the material world. Prof. Munsterberg has laid great stress upon the inadequacy of the subject-material of psychology to the exhaustion of mind in the full sense of the term.

Neither mind, as it appears to analytic psychology, nor the material atom, as it exists for physics, is ultimate reality.

He distinguishes rightly between the mentality of the active human being, acting in a teleological manner but not giving any thoughts to itself, in contrast to its apprehension of itself, as mind reflected on, in pensive moments. On the latter occasion he regards mind as objectively observed ; but the former condition is rather to be considered as implicitly involving and expressing in action the full reality of mind. We shall now endeavour to amplify this view. Mind proper has been apparently

developed in its human form as a secondary derivative, which is merely auxiliary in the struggle for existence. It was only valuable in that struggle as affording a means of apprehending external objects. And, as we have pointed out, the only practical way of avoiding those portions of the universe which in our eyes are endowed with properties, ultimately dangerous to our own vital series, was to represent them separately, though arbitrarily, as clearly-defined objects, most of whose other properties are harmless. But the mind, once shaped in this groove of apprehending the world as a series of stereotyped objects, maintains this mode of apprehension in all its proceedings.

Thus various types of existence show themselves in the possession of qualities which only have significance as compared with other "possible" but unreal conceptions. We can conceive matter shooting about wildly and resting at will, and we can conceive mind acting otherwise than as it does; in fact, the unique peculiarity about mind seems to be its capacity for delusion. We are forced to discover by patient experimental labour that which would really be inevitable from the first, if we could attain the Absolute's view. For the latter Plato's ideal must be realised, and activity of all entities must be deducible from their existence, when existence is apprehended in its ultimate reality. Now matter, as a series of molar objects, is evidently inadequate to the demands of science, which consists in a continual correction of the error. We have no reason for assuming that mind will be more successful when it begins to deal with itself. The illusive forms, originally imposed by the necessities of the struggle for existence, will still persist, though in this case, instead of thus helping himself in that struggle, the psychologist may possibly be directly impairing his own chances of welfare and happiness by the prosecution of his study.

With advancing evolution the externalising or objectifying character essential to mental activity, as exhibited in the living organism, causes the latter to objectify a new aspect of itself in contrast to the body. This is the psychological stream of introspection.

· Mind will therefore now appear as a series of mental

This stream appears as a number of discrete ideas, etc. (obeying the forms of the mind which caused matter to appear as a number of discrete objects).

objects, and these will bear the same relation to reality which the "material image" bore to physical existence. We certainly did not expect the "material image" to have any influence upon physical forces, and much less can we expect the objectified stream of consciousness, as such, to take effect upon the physical processes of the body. There is certainly no such thing as psychophysical interaction between this illusion and the physical entities. And as this stream is all that we actually apprehend of mind, it is not surprising that we cannot understand psychophysical interaction of such a nature. But it must be remembered that even the mistaken contemplation of our own psychical stream can affect our sub-conscious processes, and insensibly alter the standpoint from which we view the universe. Altered modes of activity may ensue, and hence *indirectly* the psychical series can act upon the material world, just as the beautiful colour of a rose in the "material image" may lead to its being plucked by a process, indirect so far as physical forces are concerned. Actual psychophysical interaction in man no doubt follows the same course as in animals. It is exemplified in action, and with the assistance of some (relatively) externally derived energy, of which an immense irrelevant flow is always being introduced into the brain, the selection being probably made according to the view expressed in detail in the last chapter, namely, by the formation of neural masses *within* the whole organism capable of reacting mechanically to certain stimuli in a particular manner. The Röntgen rays, for instance, must affect our sensory apparatus, yet irrelevantly, for they cannot produce the spectacle of an ordinary object. Sub-conscious processes, in fact, might be represented simply as activities of brain-matter, taken as far as they are capable of serving the larger teleological *activity* (which includes both sub-conscious and conscious processes and at times differentiates the latter, as conscious), and as displaying this subserviency in the

particular type and changes of that consciousness which is thus produced. This teleological activity of an organism as a whole is best illustrated before differentiation of a nervous system occurs; in the *amœba* such activity can never appear as if proceeding from a strictly psychical entity, since there can only be the conscious entity with its sub-conscious concomitant after differentiation has commenced. But the susceptibility of the neural masses could never affect matter, taken as working atomically, without the aid of fresh external energy, guided automatically through the differentiation of various neural and muscular masses, which are such as to assist mechanically, each in a different manner, the teleological attractional relation of the organism as a whole. In the *amœba* and spermatozoon this relation, as we have shown, is logically prior to the neural and muscular differentiations afterwards formed by evolution, so as to increase the opportunities of the organism for achieving its teleological aims. The difficulty experienced in initiating some new type of motion, as in figure skating, illustrates the necessity of such *later* mechanical formations.

We have already spoken of mind as the externaliser, and we are now especially concerned with the consideration of this aspect of its activity. The first visual experience of the infant is probably, according to psychologists, a dim blur, previous to which there was presumably no experience at all. In the non-sentient material world, taken by itself, externality would have no special meaning, though to the view of mind this existence in space is the essential characteristic of matter. We should have to express the fact, which is thus represented, in some different manner. The difficulty of doing this has become sufficiently evident when we attempted in the second chapter to express "pre-mental matter" in satisfactory terms. But there is no need to repeat the endeavour in this place.

It is only necessary to observe that externalising as

Ambiguous character of the psychical stream is due to the long habit of objectifying matter alone.

such is the creation of mind and essential to its activity, but that it is also inadequate to the truth. For the psychophysical organism is necessarily reduced to confusion when it becomes possible for it to apprehend its own mental aspect. Here is an entity quite different from those of the material world, which cannot be placed on the same footing. Yet it must inevitably be externalised as a series of objects if the forms of the mind are still effective. Thus probably it happens that introspection presents us with the "inner sense," that highly ambiguous temporal series, the nature and *locality* of which we cannot well determine, because all available means are already employed for the apprehension of the material world. Hence, becoming confused, the materialist sometimes maintains that the psychical series is "practically" nothing and nowhere. And indeed it is an illusion, but so also in that sense is the "material image." It is also evident that mind, longing, as it were in despair, for the sense of reality, which it inevitably connects with the experience of matter, the object of its apprehension during the myriad years of evolution, sometimes breaks down the shadowy barrier by force, and we then apprehend an "hallucination" or representation of mental objects in space. But as civilisation progresses, the mental series becomes more and more prominent, though the presence of a physical body must always make it seem comparatively unreal. The mental series has also its own divisions of imagery, visual, tactual, auditory, and the like, as also the conceptual series, but for our purpose, which is not psychological, we may treat them together. Evolution, it seems, involves a continual new differentiation of one entity after another, as explicit, and each new creation has activities and relations of its own. Its effect, however, is not so much to alter the previous activities as to present them under a different guise by contrast with the latest production. Ether, if it has been differentiated from matter, must be different from the original sole

existence, if only by being incapable of the particular "processes" which are produced by the material entities now included within it. Similarly, mind alters or, more strictly, creates the *guise* of all matter, though it only on occasions changes the direction of matter's essential activity by psychophysical interaction. Conscious apprehension first appears in mind, and since mind is merely part of the universe, it not unnaturally assumes that externalising form, the activity of which we observe.

We must first consider why mind regards this last externalisation as itself or "its own," in a degree which it does not allow in the case of matter. For it does not seem to be a sufficient answer if we say that the psychical stream is the latest differentiation. Also we are aware that in many cases the mental stream can partly appear as alien, and the individual then maintains that he is "possessed" by another spirit or a devil. This fact may prove to be very important in determining the peculiar character of the reality of mind as it appears to the human being, and as contrasted with that of the Absolute.

Why is the psychical stream especially recognised as the self?

It is not possible to describe in detail the gradual beginnings of self-consciousness, though they must occur in every child, but the general nature of its origin can be sketched with that amount of probability which attends the application of a principle shown elsewhere to be valid. It has been pointed out that various portions of the brain are often connected with physical activities, which actually result in conditions *opposed* to each other, if expressed in mental terms, though, merely as atomic brain activities, they cannot bear such an expression, and still retain an accurate physical meaning. For recession of our bodies from an object, or approximation to it, are often very different from the point of view of mind or the teleological relation, for which the two motions may have a different significance, but, so far as produced by the play of atomic activities, they are utterly indifferent processes. Thus the brain,

as mechanically constructed by evolution step by step, will continually be producing totalised motions with sharply contrasted meanings for mind. It is thus that there finally arises a truly differentiated whole. For partly by the contrast of its own "instinctive" bodily motions with those initiated by its own more lately developing, conscious purposes, mind is likely to be led to introspection. We know that later in evolution it is possible for this contrast to become so marked as to produce broken identity and multiple personality. But if this latter result is to occur, it is necessary to have identity and personality previously developed. No one ever heard of an animal with broken identity, for it has no real identity which could be broken.

Personality is developed by contrast, and its essence is the omission of some parts of the available mental content.

But these phenomena are very useful in illustrating how independent the systems of brain-association tend to become. For it is this degree of independence of the parts of a brain, which yet is one for other purposes, that leads first to the implicit and then to the explicit formation of personality. The essence of personality lies in the *omission* of part of the mental content. We are not consciously aware of the omission on all occasions, but unless it had occurred, personality and identity would never have been developed at all. When once this form of personality, the latest totalisation within consciousness, has been produced, it persists in the consciousness that has produced it. We may compare the observation of Janet and Binet to the effect that the fragmentary mentality, in cases of broken identity, tends to "run into personality." Thus "secondary and tertiary selves," upon gaining a sufficient share of the mental content, assume control, and become the prevailing personalities. Such a result would never occur in an animal, for its "personality" is only due to the progression of a single co-ordinated nervous system (using the term nervous system in its widest physiological rather than morphological sense). Human interests, on the other hand, are so varied, and the brain develop-

ment so great, so as to correspond with them, that there is great danger that the unity will not be maintained after it has been formed. We all suffer from this weakness in different degrees, and the "strong" mind is that which subordinates the irrelevant contributions of its cerebral complexities to a few over-ruling mental interests. If, however, these interests are thwarted, such a mind suffers in proportion to its strength. Thus personality develops through the increasing volume and complexity of neural masses, produced by competition in the struggle for existence, and mechanically producing in consequence actions with vividly contrasted meanings for mind.

We may now consider what seems to be the contrast which is sharp enough to bring personality to birth. Personality appears to develop hand in hand with the ideal instincts. We are not about to contrast man with the animal world, or to suggest the epoch of the dawning of these instincts, or the reason for their appearance. It is only necessary to point out that deliberate self-sacrifice openly challenges the instinct of self-preservation in the struggle for existence, supervening on the social instinct, which has proved so valuable in that struggle, and that we have in this impulse the material for a contrast sufficiently painful for the production of personality. The very essence of personality is our implicit or explicit identification of ourselves with some particular traits of mind, for the weakest personality is that which possesses no particular psychical traits at all. And this identification is only possible through tacit recognition and at least temporary repudiation of other traits. We are not necessarily bound down to the contrast of good and evil; for intellect, for instance, may be opposed to physical courage, or charity to justice. But the sense of personality is most intense in the moral struggle.

The development of personality is signalled in the primitive races of mankind by a variety of institutions,

The contrast, which is sharp enough to differentiate personality, involves pain at least in the first instance.

which now seem to us peculiarly senseless, but whose value lay in the fact that they contained the germ of a higher life. We cannot read Herodotus, or the work of modern anthropologists, without being greatly struck by the prevalence of customs in savage life which must stand terribly in the way of survival in the struggle for existence. It is wonderful to observe how savages maim themselves and unnecessarily encounter all kinds of dangers merely to satisfy the religious instinct, which even in its crudest infancy is already at times more than a match for the instinct of self-preservation.

The view taken of personality, as due to a particular type of contrast, is on the same analogy as much of our previous work. The new form of existence becomes possible as appearing in connection with a larger totality, which in this case is the entire nervous system and its psychical aspect. The sub-conscious processes must contain many workings which never find recognition in personality, and it is well known that under hypnotism previously recorded experience is projected which the conscious self could never have recalled. To bring about such effects, the activity of the neural centres, which is chiefly to be associated with *conscious* mentality, must be held to be in some degree in abeyance, and such neural inco-ordination brings into stronger relief that aspect of the sub-conscious series which is determined rather by juxtaposition of events in space and time than by association according to personal psychical interests. The subjective, in fact, is sacrificed to the objective. And psychologists have shown that it is by relative vividness that sub-sensations can find a place in consciousness, for the same stimulus at different times will not be equally successful in producing a modification of consciousness.

A very striking example of the difficulty in which mind is involved, when it becomes possible for it to apprehend itself, and thus in a sense to externalise itself, is afforded by the phenomenon of "mental" pain.

When we speak of "physical" pain we are concerned with a disorder or abnormal condition or distribution of the neural currents or disturbances usually associated with the normal condition of the sensations, either common or special. The so-called "physical" pain is psychically referred to a *peripheral* area, which has some relation to the ultimate distribution of the nerves affected. These reservations, however, must be added; "periphery" is not necessarily the surface of the body, but may be the substance or surface of a viscus, but it corresponds as a rule to the distribution of some sort of "end-organ" of the nerve involved; also the term "some relation" in the above phrase is used in view of the fact that sensations of a visceral origin are often referred to defined cutaneous areas (Head's areas). Again, sensations localised in brain or spinal column are probably conveyed along the nerves which, as recurrent branches, are associated with the cranial nerves, and, in the spinal region, with the "sympathetic cords," and which are distributed in the meninges. It is possible that some currents, corresponding to sensations referred to the central nervous system, pass along nerve-fibres which never leave that system. As a general truth, it may be held that "physical" pain is referred to that which is relatively a periphery, and, without some such localising "reference," the relation of the pain-causing disturbance to the body of the subject could not become definitive, and therefore could not be of value in the struggle for existence. It may be thought, however, that we are confusing this externalising away from the *physical* brain (which required modern physiological research before it was known to be a centre of neural activities) with direct objectifying by the mind of part of its own *psychical* content in introspection. But we wish to emphasise the fact that, firstly, all pain is referred to some part of the physical periphery (originally in the case of "mental" pain merely as a vague discomfort), and, secondly, it may be afterwards

Contrast of
"mental" and
"physical"
pain. Why
should the
former be felt
in the region of
the heart?

psychically reflected upon, and thus partly objectified or externalised in quite a different sense, but still on the same principle.

Now "mental" pain may be pain caused by the apprehension, not of a *single* object in the spatial world, but by the appreciation of a set of actual or possible relations between various objects, or if it is due to some one spectacle, it is because certain implications and probable results are simultaneously apprehended with the object.

Reference of mental pain to the region of the heart illustrates the externalising activity of mind, mis-directed under novel conditions.

There is evidently no special objective reality with which mental pain is associated, and to which it can be referred. If we could imagine an intellectual being, who did not know pain, but had otherwise a complete understanding of the course of the development of our minds, he would certainly inquire with great scientific interest how a man could feel, and to what part of his periphery he could refer, "mental" pain. We indeed know that it is commonly experienced in the heart. Now it is evidently referred thither arbitrarily, almost accidentally. So far as the physical heart could have any special connection with mental pain, the latter might as well be referred to the big toe. The observed fact may be due to the anatomical arrangement by which the region around the heart and the liver is probably capable of being so affected, because these are the continuously active organs closely connected with the central nervous system, through the intermediary of the cardiac and gastric plexuses. Such would also be the explanation of the back-stroke theory of the emotions; it is only on the neural *outrush* that they can be felt. Mental pain does not always produce heart flutterings and fainting; for, less poetically, it can disturb the digestive functions. Pain can also be produced in these regions by "physical" causes, especially by ordinary indigestion. The difference in quality is then interesting to observe.

"Physical" pain is more definitely localised and, for

a time, can certainly act as a remedy for mental pain. No one whose limbs were touched by fire would remember his mental trouble while the fire burnt him. But it is significant that men seem less frequently to contemplate voluntarily ending their lives under the influence of physical pain. The reason probably is that there is always some prospect of its conclusion, while mental pain is instinctively regarded as "essential," even though experience proves that it may pass away. And this will presently lead us to the important question, why the conscious stream observed in introspection is especially regarded as our own? With regard, however, to this definite localisation in the cardiac regions, it is natural that pain, the salient feature of life, should be exhibited in the "mental" life and form material for psychical objectification in sharper relief than the mere stream of consciousness or mental pleasure. The man who says that he feels "light-hearted" scarcely localises the feeling, except perhaps very vaguely, as fused with a healthy bodily coenæsthesis. He may of course objectify it in introspection, though it is often lessened by that very process, which disturbs the delicate balance of causes which produce it. We do not exactly refer "mental" pleasure or the ordinary stream of consciousness anywhere, but are simply in doubt as to their locality, if we stop to consider the matter at all. After reading cerebral physiology in the twentieth century, we imagine that the conscious stream is in the brain, probably by mere association. It is said, however, in Aristotle that some men apprehend thinking to be in the region of the stomach, the probable interpretation of this singular statement being identical with that suggested for the explanation of the localisation of mental pain. Later, the localisation is altered when we get the idea from physiology that the brain is the seat of intellect. But in reality thought is more probably experienced in the nerves connected with the contraction of muscles in the forehead, a contraction which is

Comparison of
the effects of
"mental" and
"physical"
pain when
occurring in the
same region.

concomitant with severe mental effort. Ribot, writing on Attention, points out the rôle actually played by this habitual contraction in severe thought; it is probably in this spot and not in the brain that thought is externalised, if anywhere. The exact locality of this sentience is evidently not essential, and it is only necessary to observe how vague are the terms "mental" and "physical" pain, and how the mind falteringly tries to follow out its old method of spatial externalisation where it has ceased to be applicable. Similarly, thinkers, in attacking such problems as infinity, often put the question in a form tacitly determined by earlier habits of thinking, which have been formed in reference to merely practical problems. Such methods are usually inadequate, and probably lead to statements which are really meaningless in the new connection, and hence not admitting of an answer till their form is altered.

We can now inquire why the conscious stream is regarded as peculiarly our own. Even those who judge by "physical" qualities, and in consequence are likely to be poorer in "mental" life, would probably admit, when challenged, that the core of the self is the mental stream. Mr. Bradley criticises the "self," and shows that, like all other observed entities, it is self-contradictory.

Bradley's analytical criticism of the empirical self shown to be genetically inevitable also.

Certainly there is nothing of which we can assert that it can never pose as the object, and hence as the not-self. Moreover, according to our view, it must do so whether it is the "self" or not. But we are only concerned with investigating the meaning of the observed fact that the ordinary individual regards the objectified stream of consciousness as peculiarly "himself," whereas he certainly refuses to admit the "material images" of the physical world and has some hesitation in accepting his own "body." Many writers have pictured the discovery of the infant, that it does not include the universe. It is achieved by an implicit comparison, for it is observed

by the infant that part of the universe, unlike its own body, does not move at its will. By their activities objects are judged (for it is quite a different matter whether the entities concerned are really thus differentiated in all senses). The question then arises as to the distinction between body and mind. It presently becomes obvious that some of the bodily processes are controlled by the conscious will, while others are independent of it. Yet both are spatially included in the larger totalisation, namely, that motion of the body as a whole which is usually under the control of the will. We have in consequence an ambiguous result, and the feelings of mankind as to the degree in which selfhood is thus apprehended are correspondingly ambiguous. Is the body the self or not? But as soon as we differentiate the mental stream, it is plain that this almost always can be controlled by the will. It is essential to the nature of attention that it obeys the mandate of the will.

Unwelcome thoughts and feelings can indeed occur in the mind with terrible persistence, but, except under unusual circumstances, the prolongation of attention for a considerable time, at any rate, will always involve the direction of the conscious stream in the course required for deliberate purposes. The legs and arms are, as a rule, equally obedient to the will, but their spatial continuity with the internal organs, which are not controlled by the will, confuses their claim to partake in the self, and their activity is always being limited by the external conditions of physical nature, in a manner which does not find an exact parallel in the circumstances of the mental stream. Our attention, on the other hand, can be arrested, but not indefinitely chained, whereas our bodily movements are continually being confronted with physical sheer impossibilities. And it is notorious that in cases of extreme mental development, concentration of attention may be maintained despite all the assaults of the external world

The psychical stream is preferred to the physical body, as being the self, because it is less continuously interfered with by external limitations.

upon the senses. It is not, therefore, surprising that the mental stream should seem to be the self, not indeed because it alone really *is* that dubious entity, but because, more than any other stream of events, it runs its course and is active, as if it were the self, and obeyed our will. We do not propose to attempt an account on this occasion of the meaning of the "self." We merely desire to lay stress upon the reason why the conscious stream, which, as Mr. Bradley has shown, must logically be regarded as often part of the not-self, appeals to us so strongly as being our own. It has, as Prof. James remarks, a unique sense of warmness, and this feeling will partly arise from the contrast with the *comparative* dependence and liability to alien interference exhibited by other types of the logical not-self, such as the limbs. At the same time it must not be supposed that we do not admit the position of Adamson, that, so far as we are anything definite, we *are* our conscious states and do not *have* them as objects; yet we must objectify them in order to study them, even though they are thus changed. For our present purpose the conscious stream, so often mentioned, refers to the objectified products of introspection; moreover, even the affective feeling-tone can and must be to some extent treated in this manner.

Illustration
from obsessions
and "demoniac
possessions."

Under certain circumstances, as we have remarked, it is by no means true that the conscious stream is taken as the self. Such are the cases of "demoniac" possession, and this phenomenon may prove to be of importance. Certain types of mentality are "recognised" by us with greater respect than others. In fact, we display a further differentiation within that larger whole of psychical phenomena connected with a single nervous system. The fortuitous flotsam and jetsam of events, strung together by contiguity in space and time, is not apprehended in the same manner in which events appealing to our "interests" are recalled. This is most obviously exemplified by the well-known observation that we remember best that in which we are interested, though

hypnotic experiments show that the sub-conscious processes comprise potentially much more than this content. The conscious stream is thus a fair rough test of character ; for that which can rise to consciousness will more often be representative of the "character" and personality than anything else in the man. If from any morbid conditions, such as the prevalence of an obsession, something which is not representative of those main traits by which we implicitly recognise ourselves can attain an undue ascendancy in consciousness, we presently repudiate it and deny that it is our own. Personality, as was remarked, arises by the tacit exclusion of some portion of the entire possible mental content ; if anything is forced upon it contrary to its nature, we conceive the idea that we are "possessed." Thus perhaps arises the true conception of the ideal self freed from the effects of spatial and temporal contiguity of events, and from the intrusion of objects into consciousness incongruous with the higher instincts of the mind. The separation between the good and the bad ultimately rests on the facility with which one or the other rises to consciousness under normal conditions. It is not necessary to be suffering from an obsession to realise this further differentiation in the mental self. I have observed that if I imagine myself acting in a manner not at all characteristic of myself, presently my "mind" *tacitly* repudiates the proceeding by representing itself, not as "possessed," but as another person, usually marked off as such by seeming to be engaged in another profession, and tentatively assigning to itself an appropriate name. This phenomenon occurred several times before it was reflected on ; otherwise it could not have been regarded as a genuine example.

Further differentiation of the ideal self.

This, of course, is merely a way of describing the formation of character, but its importance for our purpose lies in the fact that there is a differentiation in degrees of selfhood even within the conscious stream of introspection. As we now live, our mentality is partly

The psychical stream at present is the result partly of half-formed character and partly of mere contiguity of events in space and time.

determined by half-formed character and partly by contiguity of events in space and time, and probably the only reason why the former is not "externalised" in some more intimate circuit than the latter is that we do not from the beginning clearly realise in what sense we externalise the conscious stream at all.

Mr. Bradley lays stress in *Mind* on the fact that the psychical stream is altered in its essential existence by being reflected upon. In this work it has not been regarded as "existing" unless reflected upon, though it is of course recognised that the practice of introspection grows imperceptibly. This divergence is merely a matter of terminology, forced upon the present writer by the necessity of dealing with the earlier stages of mind. For it is fully recognised that our "implicit" conscious stream is a quite different thing from the condition of mentality in the lower animals. A savage can have language, religion, moral conventions and the like without ever having indulged in deliberate introspection, and thus created the objectified conscious stream as such.

Implicit self-consciousness of the savage displayed in language.

But without its existence as implicit there could certainly be no such thing as personality nor any of the accompanying phenomena just mentioned. Strictly speaking, the implicit personal conceptions of the savage are displayed in his *activity as a person*. In the animal world, omitting doubtful cases amongst its highest representatives, there is no "character" formed by this tacit repudiation of some part of the mental content. The character of each type of animal is wholly determined by the chances of evolution and individual peculiarities of physical structure. It does not therefore display character in the same sense as that with which we are here concerned. It merely shows an amplification of the teleological relation and the paucity and purely biological character of an animal's interests strongly exhibit this contrast.

Thus the essential point in this chapter on "mind in

man" is the mode in which an entity, self-conscious mind, appears, having relations with that which it can at any rate *relatively conceive* as itself. For we believe with Adamson and others that Subjective Idealists are in error by maintaining that our primary experience is of our own conscious states only. Mind owes its unity to the unity of the including universe as a whole (inaccurately expressed as "external realities"), and naturally fails to discover by introspection any core in the self, which cannot be logically regarded as the not-self, simply because its true self is ultimately the Whole. Its recognition of its "own" conscious states, so far from being primary, is its latest acquisition, differentiated off from a more general and primeval experience of reality, which did not distinguish internal and external. All relations treated in former chapters have been between physical objects regarded as separate, or otherwise the relation itself, as in the case of the mere teleological relation of the *amœba*, necessarily involved something, taken unhesitatingly as external.

In the present case the further term of the relation is indeed external in a sense, but it has been pointed out that if mind's origin has been that which scientific observation indicates, it could scarcely in any other way apprehend itself. We should not, however, disregard altogether the direct intuition that this is the final self (so far as anything is final which is not the Absolute), while we can also give a definite reason why it does not logically appear as a final existence to the thinker, the merely acting self being no self, taken as a mentally differentiated entity. A later chapter will show that we are not here approximating to the "noumenal" self. If mind, then, makes itself an object, that object is no longer partly itself, but without doing this it cannot apprehend itself at all. In "mere" feeling, mind is nearest to apprehending itself without objectifying itself, but it is evident from skilled psychological introspection that such mere feeling, without a trace of reflective

Recapitulation and preliminary comparison of mind with the conception of the Absolute.

action of the mind back upon itself, does not really occur. The direct non-objectifying intuition, which we must attribute to the all-inclusive Absolute, can never be shared by mind, for this direct intuition as such necessarily requires that there should be nothing external to the apprehending existence. Perhaps it is preferable to say that there must be no *actual entity* external. For we hope to show that the very "*existence*" and reality of man, so far as separate from the Absolute, lies in the peculiarly incomplete mode of his *apprehension* of Nature, himself and the Absolute under an unique guise, which for the latter would be unnecessary, and indeed impossible.

CHAPTER VIII

THE IDEAL INSTINCTS

WE have now concluded that portion of the inquiry in which we have necessarily dealt with our subject partly as a matter of cosmic history. Stress was laid in the first chapter upon the statement that philosophy should not ultimately be a history, and that the genetic must be at least subsidiary to the analytic. It was objected to Herbert Spencer's work, if taken as pure philosophy, that it is not so much a philosophy as a probable history of the universe compiled with the aid of science. For though his work deals with the principles underlying each of the sciences, yet it is in an historical order that the universe presents to us its substance in such condition as to render possible the various sciences in turn. Thus astronomy could have been studied earlier than biology by a celestial observer. When dealing, however, both with matter and with our own minds, we are compelled, even in metaphysics, to admit the historical treatment of our subject, because it seems to have been part of the essential nature of mind, as it appears in ourselves, that it was evolved under the conditions of time. Perhaps the main contention of this work consists in the assertion that our mind's nature, even when regarded analytically, cannot be fully treated without attention being devoted to the mode of its development, as indicated in biological science. In fact, it is claimed that part of the very essence of mind,

Conclusion of
the genetic
treatment of
our subject.

as it appears in us, is to be found in the peculiar type of its historical evolution.

Illustration
from the rela-
tion of meta-
physics to the
historical
aspects of
religion.

Our position might be well illustrated by the consideration of the attitude which metaphysics should perhaps take up towards Christianity or any of the religions of the world. Metaphysics, as such, is primarily concerned with the attempt to discover, by intellectual analysis of all the facts presented both to our senses and to our psychological introspection, whether the universe is capable of complete *unification*. This unification, the Absolute, if proved to exist, is simply the explicit avowal of highly evolved reason that the implicit intellectual instinct, which long ago coined the word "universe," was not in error. It is the supreme example of the principle, stated in our second chapter, connecting "knowledge" and "being." The animal can know nothing of the world save taken separately in its parts. But fully formed mind, as such, immediately apprehends the world as possibly a whole, and, in uttering the new word "universe," displays its own ultimate nature. The very formation of the word is perhaps the best, because unconscious, testimony to the truth of monism. The Absolute is merely another term for the "universe," highly elaborated in order to explain the facts observed in scientific and metaphysical research. As a secondary inquiry, we might afterwards ask whether this unification, the Absolute, can include God, or can itself be represented to us as God, that is, as a Being such as to satisfy our religious instincts. Obviously such an inquiry would first necessitate some sort of understanding of what the religious instinct, on our side, consists, and hence genetic psychology would be required in order to complete the inquiry. But if it has been shown by Mr. Bradley, working especially on Kant and Hegel, that this possible unification (the Absolute) must logically exist in some sense, and if it can also be shown that this conception does not exclude a God, at least for the apprehension of human beings,

then metaphysics, which is the analytical use of the intellect, would not be concerned with any possible *historical* revelation of a God to human beings under the conditions of time, except so far as it might bear on the genetic psychology of our own minds, which must certainly be utilised. For the Absolute includes and transcends time, but its apprehension by humanity, as God, if possible at all, must have been in some historical setting, because the human mind necessarily apprehends everything in temporal terms. In fact, metaphysics would be within its province in asking whether there can be a personal God, and whether, for instance, it is intellectually possible that His nature is Love, as is the doctrine of Christianity. But the distinctive *historical* aspects of any religion, in whatever sense understood, have no special connection with metaphysics, except in so far as metaphysicians, recognising that the evolutionary aspect of our minds is intrinsic in their essential existence, may agree that, provided there is a God, the nature of the human mind itself necessitates that He be realised to some extent in an historical setting.

Metaphysics, therefore, is concerned with the time-transcending Absolute, and with the essential comparative nature of mind and matter. The two latter happen to include activity, and hence time, in their essence, and therefore metaphysics in dealing with them must take account of this historical development in time. But it is not in the least concerned with the exact historical mode under which mind, if the religious instinct does not deceive us, has come to realise, more or less, the time-transcending nature of the Absolute. Yet this "historical mode" is, of course, to most minds the "body" and "substance" of religion, for it is only by such means that they could at all realise, and hence be enabled to worship, the assumed personality of God. This illustration, selected partly because the special purpose of any work is always made more definite by

contrast with other aims, may perhaps help to make plain the reason for the recent introduction of so much historical matter in certain special connections. This characteristic might otherwise seem strange, after we had expressed a fear in the first chapter that it is ceasing to be realised generally that a history of the successive activities displayed by the *parts* of the universe is not in itself philosophy, whether it be developed in Herbert Spencer's "systole and diastole of the universe," or in Christian doctrine, which does not aim at being philosophy.

We have hitherto been concerned with the difficult relations between mind and matter, and this course has been continually involving us in doubt as to the right occasion for applying these terms, as being descriptive of actual entities, at the various stages of evolution. We must now consider mind in its connection with the ideal, which in its intellectual aspect is likely to prove to be the Whole. The term "instinct" will be taken at present as referring to the unpremeditated impulse to display special defined activities towards special objects or groups of objects.

The discussion of mental pain showed that "mind," as opposed to the "senses," is the activity of the organism, so far as it is in relation with more comprehensive totalisations, spatial and temporal, than must be understood for immediate success in the struggle for existence.

When "mental" pain was discussed in the last chapter, it was remarked that the terms "mental" and "physical" pain were not correct expressions. All pain, as such, is a mental phenomenon, to be distinguished from the physical neural shock, whose physiological effects are by no means always in direct proportion to the experience of pain. But so-called "physical" pain is produced by the atomic action of single physical objects, perhaps apart from their "meaning" for us. Thus a letter which destroys our hopes does not cause "physical" pain, such as is the effect of an excessively dazzling light, for the pain is produced by the sub-conscious apprehension of our altered relations to much that has occurred and will occur. We are, in fact, using the term "mind" to express that aspect of our being which is capable of

dealing with our relation to larger totalisations in the universe, both spatial and temporal, than can be simultaneously comprehended by the ordinary sensuous activity, and it is this aspect of mentality which is so enormously developed in man, as contrasted with the animal world. It is displayed in the lives of all who are capable of living for the sake of continuous purposes, and it is important to notice that in proportion as a man displays this quality, he is, on the whole, granted certain other qualities, regarded "instinctively" with respect, or even as a "great" man. The most obvious example is, of course, the steady resolve to do one's duty, the allegiance to "principle." "Principle" is certainly a very wide totalisation, for its essence lies in its applicability to all possible combinations of circumstances, which lie unknown in the future.

It is not, of course, asserted that capacity for wide spatial application is the only quality which wins respect. The "grand criminal," such as Clytemnestra, secures some respect because of the relentless unbroken purpose displayed, but it is obviously discounted to some extent by our disapproval of the nature of the purpose. Similarly, even the most selfish of millionaires is somewhat admired if he has displayed great sacrifice of pleasures, for instance, in pursuit of his ambition. For pleasure is usually the whim of the moment, and the mere animal is capable of it; hence a life spent in its pursuit is rightly felt to be far inferior even to such a career as that of Napoleon, and it is notorious that Milton's Satan is so depicted that we gradually come to wish him success, while we watch him scorn all leisure in the stern pursuit of his diabolical ideal. To this extent is justified the modern popular crusade on behalf of the "strenuous life," which, however, carefully avoids making any reference to the varying moral worth of the purposes in connection with which we are to be strenuous.

The ideal instincts correspond with the wider totalisations. They appear ideal in contrast to the narrower activities, upon which the continual demands of physical existence press.

If we now consider those aspects of human activity

which we have no hesitation in describing as "ideal," it can be shown that in all cases they correspond with that far-reaching range of appreciation of the relations between objects which we regarded as characteristic of "mental" traits in the discussion of pain. Roughly speaking, the well-known distinction of the moral, the intellectual, and the æsthetic with their various combinations will be taken as representative of the "ideal" instincts of humanity. Self-sacrifice and self-realisation (in the higher sense) are usually selected as the salient features of the moral ideal. The explicit principle of self-sacrifice ultimately requires the recognition of a wider and worthier whole than the single personal being, the claims of humanity. The higher self-realisation means the effort to widen the mental scope and beneficial influence of that portion of the larger whole of humanity which the individual must represent. We need not on this occasion repeat the well-known arguments as to the unity of humanity. The intellectual passion for truth for its own sake prompts the attempt to realise in their true relations the isolated and self-contradictorily conceived entities, for which the material is presented to us by the "senses." This process, exemplified in science and metaphysics, results in the formation of vast all-embracing conceptions, such as the law of gravitation or ultimate unity. The intellectual passion is thus wider in its present scope than the moral impulse, which can hardly be displayed at present except in reference to the development of ourselves or the treatment of other mental beings as moral; but this characteristic is often outweighed by the fact that the former is less likely to collide with the deep-rooted egoistic impulses, of which further discussion will be required. In consequence, moral conflicts are more associated in our minds with violent effort and pain, a fact which seems to bestow on them a special sense of "value," which is less immediately apparent in the continuous but diluted dissatisfaction

usually accompanying the purely intellectual apprehension of our present universe. Again, a work of art seems to consist in the handling of material objects, appreciable to the senses, in such a way that the result fuses some of the elements of nature with those of mind ; for a scene or a series of sounds is unified from indefinitely various sources, and pictured so as to correspond with the æsthetic forms in the mind ; in the case of artistic realism a portion of reality is selected and abstracted because it is seen that it is already suitable to such correspondence. Here again it is apparent that wideness of range is *one* of the essentials in the development of the ideal life, whose instincts seem only capable of developing in connection with the capacity for far-reaching apprehension. Thus there is no fine art built up through the mediation of the nose, for the material particles which probably affect its sensitiveness are not so varied or so delicate as ethereal and atmospheric vibrations, to which eye and ear respond. In the general discussion of instincts, reasons will be given supporting the view that new instincts are necessarily evolved in humanity, partly in proportion to its increasing capacity for apprehending larger portions of the universe.

The "ideal" instincts, in fact, are those which by various channels and in different senses impel us to overcome the plurality of physical objects and separate psychical beings around us. In morality we implicitly recognise the claims of others, and also tacitly assert our own, as equally necessary to the improvement of the larger whole of humanity, of which we are members. Chastity would be an example of the latter aspect of morality. (Common law is the expression of this unity of humanity as a whole.) But no dubious reasoning will be based on the "general will" or on "Humanity," as though it could be regarded as a separate entity in any strictly definable sense. Some of those who have attacked pure metaphysics have been foremost in

The ideal instincts in various ways tend to unity.

falling into this error. All that is really required for our purpose is the mere recognition that human beings have special relations towards each other, which they cannot possibly have towards physical objects. For the possession of such relations is in reality the true characteristic of all our previously mentioned wholes. These have been differentiated off within larger totalities, save in the case of the Absolute alone, to which nothing *existing* is external, as has been shown by previous metaphysicians. This reasoning will not be unnecessarily repeated, but in our chapter on "God and the Absolute," additional evidence will be produced from our own line of thought confirming the validity of this conception.

The "intellect" is that which makes explicit. Even a great artist, who might be regarded as excelling by "feeling" alone, in fact is often inferior to some others in actual delicacy of feeling, but has the intellectual energy to make explicit what others often feel but cannot express. It is notorious that the composer is not always the best critic of the relative value of his own various works. In the scientific line the intellect transcends the plurality of the universe by the formation of vast conceptions, which apply to reality, but are not themselves reality. Such are the laws of Nature, the creations of the intellectual instinct in mind. The æsthetic instinct achieves another type of unification, in this case implicit, for elements from both mind and matter are fused so as to gratify the "sensuous" æsthetic faculties of the former. In all cases the "ideal" instincts tend to the explicit or the implicit recognition of totalisations for mind, involving more far-reaching issues than can otherwise be apprehended. If we now consider the other impulses displayed by living beings, their range will always be found to be much smaller in comparison. The self-preserving instinct is the most obvious example. Together with the sexual impulse, it accounts for

Character of
the conceptions
of laws of
nature, moral
ideals, and
æsthetic canons
of taste.

nearly all the activities of the ordinary animal. The complete indifference which marks the conduct of the animal towards the vast majority of the objects which meet its eyes is in sharp contrast with the behaviour of civilised man under similar circumstances, and this illustration perhaps affords the best means of realising the truth of that view, which is hard to express, namely, the view of the "universal" character of the ideal instincts. Darwin has indeed clearly indicated their origin in the social development of mankind, and has perhaps shown that they must thus gradually and naturally acquire the "imperious supremacy" involved in the word "ought." The argument in the end would be valid, though in a sense circular. For on the whole his "persistent" instincts, which for that very reason prevail, are those which "pay," because their scope is so wide that *indirectly* they tend to make the organism aware of all its environment, and hence of dangers arising from less obvious and remoter causes. The instincts which can ultimately apply to the whole universe are, as a matter of fact, felt to be superior to those with an intrinsically limited range of application, such as the preying or sexual impulses. Intellectually, we reason about the ideal instincts, and refer to their universality; on the moral ground, we speak of their intuitively *felt* claim to respect.

Ideal and biological instincts compared analytically and genetically.

There is no collision, for we are apparently dealing with two aspects of the same problem, but in laying stress upon their origin and steadily increasing influence, as being probably due to natural selection, the evolutionist is not unlikely to lose sight of the additional metaphysical possibility that it is as intrinsic in the nature of an instinct to evoke moral respect (when it becomes, for the intellect, of universal application) as power to attract other matter by gravitation becomes intrinsic in the nature of matter, as such, as soon as evolved from ether. The passion for art for its own sake and for truth for its own sake is often obeyed

Darwin and the ideal instincts.

against the influence of all effective public opinion, which is usually short-sighted even for practical ends, and unduly inclined to press too hastily the question, "What use is it?" The essence, intellectually speaking, of the fully developed moral principle thus seems to be its capacity for universal application under all conditions, even the most commonplace. For the intellectual, as opposed to the merely clever, man is he who is capable of becoming genuinely *interested* in anything, though not anxious to appear "well-informed" in everything, while in the artistic sphere it is well known that certain Dutch schools of painters have made it their deliberate purpose to show what art can do even with the intrinsically ugly.

Discussion of
various human
ideals.

There is, however, no reason for supposing that the ideal instincts are confined to the human race. Dogs undoubtedly show a sense of morality, shared to some extent by most gregarious animals, and nightingales and bower-birds possibly display a considerable degree of the æsthetic instinct. There is, however, this difference, that animals are certainly incapable of recognising the value of the ideal instincts, and, in consequence, of deliberately adopting them as ruling motives of life. The Newfoundland dog may through long association "instinctively" prefer to save its master rather than itself, but it cannot form a deliberate moral ideal. In consequence its morality will never extend beyond certain limits, just because it cannot be intellectually reflected upon and criticised. The dog cannot rise to universal morality; it could not, for instance, be imagined spontaneously saving the life of a man *whom it hated*, in obedience to a universally valid moral ideal. Thus the real break is not between moral and non-moral action, but between moral activity in a specialised relation and moral activity displayed towards all beings, for the very reason that it is recognised as moral. Similarly, it was remarked earlier that a break occurs, not between the comparatively meaningless terms

"mind" and "matter," but between the still *specialised* though teleological activity of the animals (which, being specialised, is merely on the analogy of chemical activity) and the possible universal relation of the self-conscious being, as such, to the whole universe. The being, to whom nothing in the universe is wholly alien, is on a different plane from the creature, whose very nature confines it to the appreciation of only a part of the world. Such was the beginning of "mind" in the protozoon; in this way its forms (Chapter II.) were determined, but the "ideal instincts" apparently correct this narrowness, though the externalising "forms of the mind" remain, distinguishing in principle, as will presently be shown, the existence of our self-conscious minds from that of the Absolute.

We do not, of course, mean that all men explicitly form these ideals, but the essential point lies in their intrinsic natural capacity for realising that such a development is possible. No one wastes education even upon the noblest dog, for the latter is incapable of a *conventional* language, the herald and the indispensable handmaid of the conscious realisation of the ideal instincts. The Terra del Fuegian may be put to shame by the St. Bernard dog, yet the savage's possession of an artificial language makes possible for him in the course of time that which is hopelessly remote from the capacities of the dog. For, though acting "morally," it shows no signs of developing the means by which alone it seems that the higher self-conscious morality can be attained. The monkey genus is far from being the noblest or the bravest in the animal world, but it is perhaps the most intelligent, and this, it seems, was the type that was destined to produce man. This fact should be remembered by those educationalists who lay too much stress on "character," tacitly taking the word in too narrow a sense. If physical courage is the crown of manhood, man is excelled by many a beast. Range and originality of ideas

are the essential elements in the production of a really high type of character, which only springs from free and mature choice between fully realised courses of action. Otherwise we find a morality which can only accept those ideals among which its possessor happened to be born. Thus few Englishmen can justly estimate such a character as that of Macchiavelli. The savage is in some respects inferior to the dog, just as really intellectual men are often inferior to simple, honourable folk, and in both cases it is for the same reason ; the former are something better, spoilt in the making. It has long been known how the first awakening of a truly earnest intellect is a terrible challenge to the popular virtues, which, though often proof against all external assault, insensibly melt away in the unceasing ferment which seethes up from within, yet in itself is rightly recognised as noble. There is no sudden crisis, no "astounding wonders of the moment," to brace the nerves to decisive effort. It is not a struggle in which victory is assured. For history can point to no nation which has once entered upon that course and not succumbed. Only a few individuals stand out, men who were truly greater than the universe, for they endured when, in their position, they could not but believe that it is both hostile and irresistible to the end. We do not praise the sleep-walker who passes securely along a parapet, unerring only because he is unconscious of his slender path. A perfect English gentleman can now be grown with comparative ease in our public schools and universities, and also he is not always the worse for inheriting wealth, which is especially to his credit. His freedom from the real struggle of the universe, and his consequent ignorance of it (in all but word), produce the better aristocratic qualities, but also his limitations and narrow outlook. For though he instinctively tolerates all races, he understands few. Add to his composition the restless dissatisfaction of a true intellect, and if his national qualities can survive, he is the best of humanity.

But the combination is rare, and when it occurs, that fierce activity, which must at times set inwards, is too likely to play havoc with the solid structure so well adapted to a simpler sphere. Yet it is by that activity alone that men are fitted to deal with all types of beings and circumstances outside their own class or race, and to adjust a conservative spirit to the radical needs of a world in which the final law is change. *Corruptio optimi pessima* is the true epitaph over some lives, which meet with unsparing opprobrium from those who do not know how far they owe their own welfare to their ignorance of cosmic principles or to subsistence on the labour of others. We are often openly exhorted in these days of cynical thinking to cultivate the virtues of the savage, and omit all but the practical skill of civilisation. Without doubt we should then be "efficient" animals of the highest type, but happily even in America human nature cannot be made to develop entirely on these lines.

There was nothing unjust, even from our human point of view, in the selection of the monkey for the honour of producing man. The much-lauded nobility of the dog (and of humanity also, in proportion as its members lack imagination) is not all it seems. With Stupidity and a good Digestion, as Carlyle puts it, a man may front much. If the dog does not even implicitly realise what it is doing in its self-sacrifice, there is no self-sacrifice at all. The dog originally comes to love its master through being well fed, and afterwards this continued process forms association areas in its brain sufficient for the inhibition of the self-preserving impulse. When it rushes to save its master, it does not even implicitly realise the significance of death, or think of ruined prospects, or truly sacrifice itself, for it cannot form the idea of a self to be sacrificed. However completely it may have come to gauge and sympathise with its master's moods, until he says that the dog's company is better than a man's, the principle underlying the attachment is unalterable. The dog is indeed thus

Criticism of the morality of the dog, the bee, and human traditional feeling.

specialised just because it is incapable of the wider interests which would otherwise rightly distract it. It perishes upon its master's grave because its brain cannot supply other springs of interest for which to live. We should hardly approve of a man who refused to leave his wife's tomb. Absolute constancy partakes largely of stupidity, unless it is displayed in connection with obedience to a definitely realised duty, and the conception of duty involves the realisation of the ideal instincts. Similarly, we criticise the "morality" of the bee, so often applauded with undue praise lately (by Maeterlinck, for example). It lacks the essential element of universality, an omission which produces a decisive weakness, soon displayed in the merciless slaughter of the drones, carried out as "instinctively" as the acts of self-sacrifice. We human beings preserve the helpless, even idiots or criminals, directly against our own interests. Until reflected upon by the intellect, moral ideals are never perfect, and they will always display striking contradictions, which pass unnoticed within the ranks of the nation or family which has evolved its own particular standard "instinctively," without the critical use of reason. Highly elevated in one direction, yet naïvely unconscious of its weakness in another quarter, such a race or family, in its just realisation of its own value, fails to comprehend and resents a criticism of its faults, especially if the critic, partly owing to the very width of his outlook, does not act up to any one of his many ideals as fully as narrower beings to their fewer conceptions. Then we have the picture of the prophet or thinker, whose private life, unnecessarily laid bare by biographers, "could show nothing like the devotion of his wife." The value of both types of human being is, however, obvious, but happily it is not inevitable that, in the case of mind, an all-embracing outlook *intrinsically* involves diminution of energy.

It is not true that beings, whether animals or men, can be judged wholly by their actions pure and simple,

for a courageous action may be due to mere stupidity and lack of imagination, though it may also be performed in face of a vivid realisation of the impending results, and in consequence of a long-pondered and eager anticipation of the crisis. In the first case it is worth little, in the second much, but the actual achievements may be exactly identical. Humanity has perhaps been unduly depreciated since 1859, but this is not the best course to improve it, for it is better that man should regard himself as an angel than that he should calmly acquiesce in being an animal, as French "intellectual nihilism" would have it. The facts of psychology bear out neither the one nor the other view.

In this connection we may mention the efforts formerly made in some quarters, after Darwin, to prove that the ideal instincts are elaborations of the biological impulses and have been produced in the struggle for existence with reference to selfish purposes. This development is, of course, fully admitted by any modern idealist, who, however, also understands that the origin of an instinct does not logically affect its value. The real point at issue lies in the fact that the ideal instincts are recognised as superior as soon as they are realised, and we are really dealing in this connection, not with the actual statements of the philosophical "evolutionists," which are doubtless correct, but with the tacit inference, characteristic of certain evolutionary writings, that the ideal aspirations are invalid because their origin can be thus traced. Thus the earliest songs and poems were composed mainly to rouse warriors to bloodshed, but Art soon outgrows such an ignoble function and recognises itself as its goal. Again, it was only in the nineteenth century that it was agreed that morality really "pays" a nation, and even thus the individuals, who actually perform the moral act, often suffer fatally. It is, however, important to notice that the biological instincts, such as the gregarious and the sexual impulses, are of such a nature that they are

capable of being transformed into the ideal. The passion of love affords an admirable example of this process, which is analogous in some respects to the example of "transcendence" given in a previous chapter.

The passion of love illustrates the relation of the biological to the ideal instincts.

In historical origin purely biological, arising with reference to the need for self-preservation, it becomes capable of being idealised in the highest degree through admixture with other elements, mainly æsthetic, and by becoming an object of reflection to the intellect. Thus it produces acts of self-sacrifice, which may indirectly inhibit the very instinct of self-preservation, in connection with which there is reason for supposing that it was originally developed in the lowest forms of life. The important aspect of love for metaphysics is best brought out by the poet Tennyson, namely, that when most highly idealised and explicitly conceptualised, it tends to inhibit and suppress the prominence (in consciousness) of its own lower biological impulse, a psychological fact which is not mentioned by the evolutionist, whose attention is engrossed in its origin. Thus in the emotional life is found a parallel to the sensory transcendence, lately discussed. Love displays in strong relief the relation of the ideal instincts to the purely biological, because it can be connected with both, whereas the moral, intellectual, and æsthetic instincts, though nascent, have no fully developed counterpart in the animal world. The great influence of love on humanity is due to the fact that it can appeal both to the lower and the higher impulses, taking its exact form according to the character of the individual. Like hunger, it has been operative through all the myriad years of evolution, hence acquiring its well-known intensity as a motive force, and its capacity for producing pain. We observe, however, a further confirmation of our contention that "origin" is important in the consideration of mind and any of its aspects, so far as the determination of its forms is concerned. For the necessarily specialised relation of love, its essence being concentration

on an individual, which is the "form" derived from its biological origin, deprives it of that universality which characterises the purely ideal instincts, and consequently, though appearing as the high-water mark of biological evolution, it remains inferior to the latter impulses, as is indicated by the selfish indifference to all other claims which it often produces, unless corrected by their presence.

This is a subject in which every type of humanity has always taken interest, and considers from many different standpoints. Hence it might be worth while for us to introduce for reflection those scientific facts of which the novelist and poet are usually ignorant, in order to interpret them afterwards from the idealist standpoint of metaphysics. For this would certainly be a serious attempt to see the passion in true proportion in the universe. On this ground the following biological fact seems to us to be of chief significance. The primeval sexual fusion of the protozoa was actually *complete*: one individual remained where there were previously two. Such is even now the case with our own spermatozoa and ova, which both resemble and represent them. As mind developed, the psychical instinct also, evolved in correspondence with these physical facts, and persisting in connection with the cerebral areas now controlling the genital organs, still presses for *absolute* union. It is curious to reflect how completely Aristophanes hit the mark in his comic portrayal of love. But such an union is no longer even physically possible. We have developed a superb nervous system, braced with bones and centralised in a commanding brain, the organ of conscious mind. Now the essence of self-conscious mind is individuality, self-realised as separate in being and realising side by side with its selfhood all the higher aspirations of humanity. Hence the profligate, who differs from the animal by dwelling on a mere instinct of Nature, can never be fully satisfied, for despite his will he cannot rid himself of the organs of

his higher powers. They are made for separate existence, and cannot be merged with the semen in another's being. Lucretius also, that heroic thinker, doomed to madness and suicide for feeling darkly the truths of science before the dawn of Christianity, seems to have grasped in outline the nature of these feelings.

As metaphysicians we omit no type of fact, but we may now pass on to human love. Perfect love, it is said, is the highest earthly happiness when complete mental sympathy exists side by side with physical fitness. This is probably true, but those who speak glibly of it must know little of mind. Only beings who are indeed good in some respects but are comparatively commonplace could hope for a permanent happiness arising from such a cause. A highly developed mind is far too complex to meet within the narrow circle of friends, limited by space, another being who would be fully its complement. Real individual sympathy is usually replaced by supplementary general characteristics of the sexes. The most obvious instance is the attraction of "masterfulness" for the female instinct, that shrinks from self-reliance. Mary Queen of Scots and Bothwell perhaps give the best example. The long-continued subjection of woman to man, an accident mainly confined to primitive humanity, and certain physiological differences of metabolism, are probably the somewhat treacherous grounds upon which this attraction is based. Such affection, unless also modified by the presence of higher qualities, has usually given way in some degree to disillusion, for it does not rise above the ordinary struggle of Nature in principle, yet is expected to apply to the ideal though artificial condition of permanent marriage. These accidents, however, have perhaps determined the tendency by which truly ideal qualities of different shades generally predominate in the sexes. Thus possession of power and money seems more harmful on the whole to women than to men. It is, no doubt, politic to conciliate the

"mammon of unrighteousness," those who judge by money, in order to increase the chance of meeting the high-minded, for the stiffness of our social customs practically puts a premium upon idleness in these matters. For those who do the work of the world are less likely to have the chance of eliciting and realising the best in others and themselves. Hence marriages, when not purely commercial or due to loneliness, result mainly from mere propinquity in residence or pursuits, and thus naturally give rise to nothing more than a partial satisfaction, which may also be somewhat due to the presence of congenial friends. If two beings were perfectly satisfied with each other, they would probably do little good in the world ; it seems that extreme conjugal happiness has never been especially associated with those who have been the great spiritual benefactors of mankind. It is by an infinity of divergent paths that individual minds must rise higher, and from a metaphysical standpoint this divergency could only be overcome by some completer realisation of the ultimate unity. To this the religious instinct bears witness by the conception of "union in God," but it is evident that in our present life a complete sexual satisfaction should be regarded as the fortunate chance of a transitory stage. The present idealisation of passion for its own sake in poetry, music, and painting, shown in the isolation of such artists as Watts, does not strike the deepest chord, though it may be a natural development in an age of luxury ensuing upon periods less characteristically introspective. Such was the post-classical epoch of Greek literature. For it is an idealised accident of biology which is thus exalted, not a feeling of cosmic significance. Indeed, "the sacred mystery" of duality in union, the main theme of Wagner's followers, would seem to be the necessary result of the evolution of a purely mental aspect to our existence. For minds, being "nowhere" spatially, could not be spatially united like their physical components.

The religious instinct has not been mentioned

because we have not yet arrived at the discussion of the relation of man to the Absolute. It is, however, obviously of an ideal or universal character, desiring to apprehend everything as manifesting God, except in so far as it is sometimes due to servile fear. Its peculiarity, namely, that its object is not apprehensible either to the senses or to introspection, marks it off from other mental activities, and makes a different type of treatment necessary, so far as any handling can be accompanied with some degree of success. The term is also used in a somewhat vague sense, for the "religious instinct" often refers rather to the apprehension or intuitive experience (in some sense) of an objective Reality, such as would satisfy, for example, our demand for a moral universe. This is not an impulse to a particular activity, which is the exact meaning we are attaching to "instinct," except so far as it produces acts of a specific reverence and worship. The issues involved in the psychology of religion are so complex that it is undesirable to dwell upon the subject when our only purpose at present is to contrast and distinguish the ideal and the biological instincts, for which the moral, intellectual, and æsthetic impulses and their various combinations are amply sufficient.

Analysis of
instinct.

We have been obliged throughout this work to refer continually to types of existence, such as mind and matter, long before any satisfactory meaning could be given to them, but so long as no reasoning was based on the treacherous assumption that we are aware of what we mean by these terms, we were justified in employing this method. Similarly, the term "instinct" has been freely used, for it evidently represents an indisputable fact, although very difficult to elucidate. We have just contrasted various types of instincts with each other; we must now proceed to consider the circumstances under which instincts arise, and to attempt to throw some light on their significance in a cosmic perspective.

Instinct, as usual, will only get a meaning for us

through being brought into relation with some other fact on a plan which the observed facts justify. The circumstances and the appearance of a given instinct must be compared with those conditions under which it is not displayed, for, taken merely as the blind impulse to act in a certain manner, it can give us no information. But we can also regard it as a relation necessarily displayed towards certain defined portions of the universe by certain other defined portions, the latter (organisms) having this quality just because they are thus constituted as *whole* organisms, while the former (inanimate objects) merely subserve the instinct, and have no special quality as a whole.

For instance, as soon as we find that special living aggregate which we know as being protoplasmic, we observe that it does, as a matter of fact, exhibit a quality which tends to prolong its existence in the same form, namely, as protoplasm. But in this connection it is perhaps desirable to begin by stating our attitude towards the conception of life, as being possibly tantamount to a new "created force." In the chapter on the Principle of Life we mentioned the views held by Pflüger and Herbert Spencer as representative of the two modes in which it is scientifically most conceivable that life might have originated. Nothing was said of the more popular idea of life as a new "created force." It is perhaps necessary to explain that this omission was due to the fact that, even if this latter view were correct, it would be of no significance for metaphysical purposes. We frequently hear it said that all efforts to trace the origin of life to physico-chemical action have failed, and that it is now time to return to the former conception of a new "created force." This is often due to a vague idea that if life be "explained," God is finally expelled from the universe. The metaphysician, however, is aware that such a reduction of life to chemical forces has no logical bearing on the problem of the relation of God to the universe, and we are certainly of opinion

Investigation of instinct in protoplasmic organisms is not affected by our ignorance of the origin of life.

that men of science have not yet had sufficient time for elucidating such a problem as the origin of life. But we must at least be prepared for the possibility, which few men of science accept, that there is really a "miracle" involved. Yet it is desirable that we should at least be clear as to the necessary meaning of such a new "created force" for metaphysics, whereas those who press it on us generally leave the phrase wholly nebulous. Presumably it would mean, as far as biology is concerned, that a certain aggregate of matter at a certain moment suddenly began to display a new type of activity, which cannot be resolved into any known play of merely chemical activities. For a "force" by itself could mean nothing apart from matter. For metaphysical purposes it is a matter of total indifference whether that teleological relation which the living organism, as such, displays appeared in consequence of a physical aggregate gradually assuming a particular composition in accordance with the laws of nature, or through some special interference on the part of the Deity in its favour. All that our metaphysics needs is the exhibition of the "teleological" relation by matter under certain definite circumstances, while under other conditions the relation is absent.

Carrying on this conception to the case of "instinct," it seems that the fundamental instinct of self-preservation, in which "mind" is first of all displayed, is a new implicit quality, following on, or perhaps concomitant with, the establishment of that balance of chemical activities within one organic whole which results in protoplasm maintaining its character as protoplasm. This new physical aggregate not only acts as living, but presently takes special means by which it results that its character, as living, is maintained. We have, in fact, a physical entity, individuated as a true whole with differentiated parts, displaying the new quality of striving to attain a position by which it maintains itself as such a whole, and learning throughout the experience

of evolution by what means it can best achieve this object, being situated as a small portion of a large universe.

We do not claim that we can here offer a logical proof of the statement that is to follow, but we can give the reason for the impossibility of such a proof. We cannot prove that a true whole (as described in the chapter on physical individuation), just *because* it is a whole that has differentiated parts, and can also act as a whole on the principle there described, *therefore* exhibits mind or existence *for* itself, and strives to maintain itself as such. There is, however, probably no living organism which does not take measures which tend to preserve itself in some manner. Though we do not intend to base any reasoning on this proposition, namely, that a true differentiated whole, *as such*, has the property or instinct of striving to maintain itself in existence, yet an additional reason may be stated for supposing that such a view is not unjustifiable. We have said that we see no reason for criticising the results attained in Mr. Bradley's *Appearance and Reality*, so far as they affect the scope of the present work. We will therefore merely repeat one of the general conclusions attained in that work without detailing the lucid reasoning expressed therein. It was shown that Reality or Existence in the *full* sense of the word, that is, as no longer self-contradictory, could be nothing but the Absolute, an all-inclusive Whole differentiated into parts, and also transcending these parts. Such, we may note, is the living organism also, as indicated in our chapter on Forms of Mental Apprehension, except that it does not include all the universe, and is dependent on the "external" in the matter of food. For thus only can its character be maintained as a true differentiated whole, namely, as capable of acting both as a whole (on a principle by which its activities in its parts are transcended), and also (through evolutionary selection) in its parts mechanically with reference to the needs of the whole. The living organism, then, ought to exhibit

Comparison with the results of previous abstract metaphysics. A differentiated whole, whose totality is not merely the aggregate of its parts, is an existence as such.

the character of true existence, which must be, as Lotze pointed out, the existence of a thing-for-itself, and not "in itself." But if the situation of the organism is such that its existence, being conditioned by space and time, is continually threatened, it seems likely that it will develop (if not immediately possess, simply, as being such a whole) the quality of taking means to preserve its existence. Such would be the beginning of that unique differentiation, mind in a limited organism, which as a fact is first displayed in the effort to maintain itself in the struggle for existence.

As such a whole is partly dependent on external conditions, and thus experiences time and change, its existence shows itself as an instinct, active upon the external, for activity is the correlate of time and change.

It is essential in the scientific conception of the activities of physical entities that their activities should be *necessary* and intrinsic in their nature. Thus iron would not be iron without its particular chemical and physical modes of activity. Similarly, it is here suggested that a true differentiated whole, such as the living organism, would not be such without necessarily possessing the instinct for existence. This, when produced under the conditions of time, must take shape as that self-preserving instinct lying at the roots of "mind." So also if there is free will in any sense, we should hold that it was necessary that the being, who *could* be free, *must* be so. Alternatives are only possible anywhere in the combination and elaboration of our ideas of intrinsic qualities, a point which will be emphasised in the chapter on God and the Absolute. Iron necessarily possesses certain chemical properties, which must be displayed under certain conditions, though there is a doubt as to whether any given fragment of it, as such, will ever get the opportunity of displaying them. It will, however, always be exhibiting its gravitational properties. At all events the Absolute and the living organism, as shown in a previous chapter, have this quality in common, which is not shared by inanimate matter, namely, their existence as true differentiated wholes. But the difference between them, namely, in the one case existence under the condition of time, and

the presence of an "external," should naturally result in that one property, which is characteristic of the organism as a whole, taking the form of an *active* relation towards the external, time being necessary to activity, as usually apprehended. And this is just what we mean by an instinct, for it is a property of the living organism as a whole, an entity, which satisfies in one respect the conditions which Mr. Bradley shows to be essential to any existence that is not self-contradictory. In the Absolute this property of existence must be something different, but in the living organism, existing in a time-series, and forced to deal with an "external" world, it becomes an "instinct," "deeply implanted" indeed, simply because living existence would not be existence without its presence, and originally this instinct and existence were synonymous.

Our position may be well illustrated by the instance of the sexual instinct, which is the most prominent in animals after the self-preserving impulse. Biological research has shown that there is good reason for supposing that the sexual instinct was originally developed because it proved to be a secondary aid to the preservation of the species. But according to the usual stereotyping tendency of mind, the instinct afterwards becomes fixed, as prompting an act desirable in itself, for in this way it would tend to be repeated. An excellent example of this tendency has lately been afforded by Professor Sully's psychological work on Laughter. Developed originally as a mechanical counterpoise to a dangerous excess of sympathy, it has become stereotyped by mind as a thing to be sought for its own sake. The effect of the idealising aspect of mind, due to reflection by the intellect, is here also displayed. Animals cannot laugh (though there is some reason for believing that the dog is gradually evolving a sense of humour under human influence). Savages rarely laugh. Ordinary civilised society, on the other hand, is almost too unrestrained in its thirst for laughter and

Each instinct in turn, first originating as a means to an end, made necessary by external conditions, is presently stereotyped, and becomes an end in itself.

the comic. An exquisite irony is the supreme ideal of many cultivated and high-born men and women. But there is again some tendency in the highest minds towards the suppression of laughter, due to the extreme prevalence of the sense of sympathy. It then often occurs that such a man as Dickens, who has the particular intellectual power which can make explicit the truly humorous, does not always greatly enjoy it himself, because of a parallel development of the sense of sympathy. Thus even the instinct for self-preservation, taken as explicit, may have become stereotyped *after* the actual display of the feeding activities resulting in the chemical assimilation, which as a fact maintains protoplasm as protoplasm. "Mind," in a limited organism, of which this instinct affords the first example, thus again appears as a secondary derivative, so far as origin is concerned, its actual form determined by the exigencies of a physical existence in time.

If it be asked whether "instinct" could have taken any other form besides that which would develop into normal mind, it can only be said that the answer would depend on a knowledge of the full nature of the Absolute, of which the living organism is a part. There must be in the Absolute something which we should describe as a quality, and which "mind" represents in that particular type of a differentiated whole, the living organism. There may, of course, be other qualities in the Absolute which under other circumstances would be represented under different forms, in other totalisations included in it. But for us the essential point is that since mind has actually appeared, it is only scientific to assume that its instincts appear *necessarily* under certain given conditions (namely, the formation of a true differentiated whole, akin to the Absolute in those respects already mentioned). Similarly, certain new chemical properties necessarily appear when the chemist brings together materials which have not actually been found

together in nature. And not only were mind's instincts inevitable, but that further development of mind also which has resulted in the evolution of the ideal instincts.

Whatever view we may take of such a problem as "free will," it is evident that the ideal instincts must first be necessarily developed, or otherwise there would be no alternatives, between which to choose, in the moral struggle. It would appear, then, that whatever was the character of that modification in the Absolute which is termed "creation," it has necessarily resulted in the differentiation of an entity, mind, which in the "ideal instincts" displays the capacity for the formation of its own particular type of relation with all the universe. It is not necessary to attempt to determine the exact character of this relation, for all that we require is to utilise its universality. For even if there are worlds, which our senses cannot grasp, it is certain that we are only anxious for the opportunity of exploring them, whereas an animal, if they were to be presented to its gaze, would ignore them, after ascertaining that they were not edible.

Latest, the ideal instincts are stereotyped, making possible a mental relation to the whole universe.

It may be objected that the "great error" of Kant is being repeated, namely, that the universe was formed in order to produce the moral character of man. We have seen this view politely described as the outcome of Kant's dotage, a tribute, however, being afterwards paid to the purely scientific work of the originator of the nebular hypothesis. In reality, however, the remark, which was as completely misunderstood as is often the meaning of the very words "Critique of Pure Reason," is by no means unworthy of its author. It is, of course, fully realised that the *separate* parts of Nature, as such, are not devised to serve our ends. The sun is formed neither to cheer nor to scorch us, just as the steam in a locomotive's boiler, taken by itself, would not subserve man's purposes, but would be more likely to burn his hands. But in the following sense it may be seriously held that the universe was possibly formed to subserve

Question of the reality of the progress of mind.

such beings as man. Apart from mind, we find only Herbert Spencer's "systole and diastole"; the material universe becomes differentiated, only to fall back into nebulous masses, or perhaps even to be resolved into ether again. Mr. Taylor has lately dealt with the "progress" of mind. He has probably shown that the world grows no happier, but our problem is whether it grows nobler. There will always be many individuals who will regret the "good old times," but they are usually those who are really incapable of a wider sweep of mind than would be required to realise their own lifetime. Such also is the wisdom of the "experienced man of the world," valid as far as it goes, but incapable of understanding that history, science, and philosophy give a range of vision to which the longest personal experience is child's play. For we have to consider whether the average European is superior to the average Roman or Greek or any representative of former civilisations. The answer seems to be not so much that vice has decreased, as that the standard of virtue has risen. Education, when it fails to improve, at least substitutes refined crime for bestiality. Knaves probably do less harm than fools. Our gigantic philanthropic organisations, our chivalrous feeling, our hatred of cruelty, were unknown to the Roman, for the ideals of Christianity have ameliorated all the moral relations of Europe. Our mechanical skill has developed mightily, so far indeed as to run some risk of swamping the higher spiritual strain of intelligence and aspiration which truly differentiates man from beasts. It has indeed been called, with some justice, an age

When the great Thought that slips the bounds of earth
Gives way to craftsmanship of hand and eye.

Intellectual, however, as were the few chosen spirits among the Greeks, and unapproachable in certain limited spheres, yet their outlook was narrow compared

to that which is now offered by an imaginative appreciation of science, and their art, unique indeed in its own line, did not develop far in painting, and practically had not dreamed of music. Mind is certainly capable of far more than it was of old ; for its degenerations have been followed by more vigorous revivals, and its "systole" is so far from setting in, that we actually find a new passion growing, the passion for progress itself as an ideal, and though this impulse may sometimes follow an injudicious course, it is surely in itself an instinct worthy of praise. But the progress of mind seems at present most seriously threatened by an ancient evil, the love of money, which is now peculiarly aggravated by a crowded democratic competition co-operating with great commercial development. The best minds are thus forced into narrowly practical channels, while those to whom inherited wealth gives the priceless opportunity of leisure often seem to have few ideas beyond the Turf, bridge, and motor-car orgies. To the workers by whose labour they live they owe nothing less than a philanthropy, which has taken the trouble to discover how easily charity may do harm, and by a strenuous cultivation of their own taste and discrimination, which would indirectly further Art and Science, instead of fostering superstitious quackery and lowering artistic ideals.

It is evident, however, that unless mental progress is to be abruptly terminated, the question of the possibility of an existence apart from the physical world, or in some different connection with it, is ultimately involved, since there is reason to anticipate in the remote future the failure of the solar heat. This question will therefore be presently discussed, but for our immediate purpose it has perhaps been shown that if matter oscillates endlessly between two conditions, while mind, through the use of matter, steadily changes its character, Kant's view is not absurd, if taken in reference to this fact. We are then perhaps justified in supposing that those

ideal instincts which are universally applicable to the world in any of its parts (and also when taken as a whole, in the case of the application of the religious consciousness) are genuine, because necessary representatives of some aspect of the Absolute. It may be thought that we are repeating in principle the well-known argument to the effect that, because we have the idea of God, therefore He must exist. We are, however, about to draw a distinction as to the meaning of "idea," and at the extreme end of this chapter we shall attempt to suggest an essential condition by which the genuineness of the claims of our ideal instincts should be judged.

The ideal instincts, however, are inevitably reproduced in us under a form different from their ultimate nature in the Absolute, since evolution has produced an entity, which in one respect only, and not in all others, is such a differentiated whole, as the Absolute itself. It must be understood that we regard it as of the profoundest importance that the ideal instincts are taken as necessary, like the chemical properties of iron, because they were active *before* the dawn of deliberate reflection, for had they been the late and artificial creation of the self-conscious reflective intellect, we might well challenge their validity as representative of the universe, the reason for which will be treated more fully in a later chapter. At the same time it must not be supposed that we are repeating Rousseau's error, "Live naturally," and are regarding the crude *ideas* of the savage as the gospel of a humanity which has risen above Nature. The interaction of critical reason with ideal instincts gives the true course of development, but it is essential that the elements of all the ideal instincts should be present from the beginning.

Instincts have
always required
an object

An instinct is not likely to exert a prolonged influence without the existence of a possible object upon which it may exercise its activity. The instinct of self-preservation could hardly have arisen without

the existence of objects, which could serve as food, or could be apprehended as dangerous, though it might have occurred that the act of assimilation was often performed by chance before the final establishment of a direct instinct urging the organism to watch for particular food. Similarly, the earliest sexual fusions possibly preceded the active instinct itself, judging from biological evidence. The discovery of means necessary for these purposes afterwards produced further stereotyped instincts, the actions corresponding with which were formerly of a character auxiliary to the self-preserving impulse. It is notorious that we often come to perform for its own sake that which we originally did with a view to some other purpose. But instincts, however they arise, have objects to which they may bear relation. It would seem, then, that certain portions of the universe become marked off in the view of the organism because experience has shown that they are suited to producing certain physical results, the original purpose being the maintenance of an existence as it is, namely, as a real differentiated whole. The means requisite for this end indirectly develop impulse after impulse, until we attain the ideal instincts. The inquisitiveness of the monkey ultimately gives rise to the intellectual ideal, which is, however, stereotyped long before it is seen to assist us in the struggle for survival. Similarly, the æsthetic ideal is hardly realised as an ally for such a purpose. It is not quickly understood how poetry and music serve even national interests, apart from their wider effects upon humanity.

It is hard to see why instincts should be developed except under some such conditions as the following. The living organism in itself, apart from external relations, is a differentiated whole analogous to the Absolute, and it is not therefore surprising that it exhibits in a temporal series, and as an instinct to preserve itself, that quality which in the unthreatened and time-transcending Absolute would be merely a part

of the meaning of real existence. For us such real existence is a whole, inclusive of and transcending its parts, which is, for the metaphysician, the only reality that is not ultimately self-contradictory. We cannot prove that such an instinct of self-preservation must arise from the mere fact that we are for the first time, in dealing with the living organism, considering a real existence (omitting consideration of external relations). Proof cannot apply to the nature of the all-inclusive Absolute, and we should require a knowledge of what existence actually means to the Absolute, but we can point to invariable concomitance. In fact, the specialised attractional relation of a vital organism, referred to in earlier chapters, is here being described in a different connection. It is suggested that this new vital relation is necessarily of such a character as to result in the preservation of the organism as vital, because for the first time evolution has produced a true differentiated whole. The previous mere chemical relation, when displayed, results in the alteration of the chemical nature of the object which displays it, whereas the peculiar action of protoplasm results in the maintenance of protoplasm as such. It is held that the new self-preserving relation issuing in the attack on the prey and mind's existence for itself, implicit or otherwise, are at that period in reality one and the same fact, and, for the observer, mind in its earliest aspect is synonymous with the source of the motion-as-a-whole of the organism, which is such as to preserve it as an organism. And the chemical activity of the inorganic entity ensures the alteration of its own molecular character by a necessity which is not more stringent. We are merely extending the scientific notion of the absolute necessity of what has actually occurred, at any rate, before the advent of the disturbing influence of self-conscious mind, an influence which introduces a question presently to be discussed.

Mind in a limited organism arose, as a secondary

derivative, facilitating the occurrence of this merely vital activity, but it has now shown itself to be of such a nature as to be ultimately capable in the ideal instincts of forming relations of its own special type with all the universe. The commonplace phrase, that the mind makes a miniature world of its own, is literally true. Mind can thus reproduce the whole universe, according to its own peculiar nature, by a method which consists in the desire and capacity for thus apprehending the universe (for, existing as mind essentially does under the conditions of time, it could not, as such, simultaneously realise the world as a whole, but must apprehend it in its parts as changing). It is then only to be expected that the new differentiated whole, namely, the mental system, to which nothing can be entirely external, should also necessarily exhibit in some form the essential qualities of the universe taken as a whole, just as iron, so long as it is iron, necessarily exhibits particular chemical and physical properties. In other words, the ideal instincts probably correspond to some qualities in the essential nature of the all-inclusive Absolute as such, for they alone represent the universal aspect of mental activity, whereas mind in the animal shows itself to be incompletely existent through the very fact that the animal cannot be induced to display any universal interests.

But mind in its maturity is a true "mirror" of the Absolute, because it can at least show the desire and will to be in relation with the entire universe in various ways. More than this it cannot achieve, because it is itself essentially a temporal series.

It is not claimed that the Absolute is in our sense moral, intellectual, and æsthetic. But it is said that, *as a whole*, it probably has qualities which can truly stand as an object for these ideal instincts in our minds, since these instincts embody the *universal* relations of mind. In its parts the Absolute provides objects, such as food, to correspond with instincts, such as the self-preserving

If the ideal instincts have an object, it is the Absolute in its essential aspects, as such, since their relation is of a universal character.

This universal relation can only be expressed in us, as continuous effort and not achievement, since mind is a temporal series itself.

or sexual impulses. But these latter impulses must often collide with the activities of other beings, for they involve the physical possession of the object of the instinct, whereas the universal relations involve no such struggle. When we eat or buy an object, we alter its existence or take it from others, but when we understand or admire it, we do not change it nor prevent others from doing the same.

Satisfaction of the ideal instincts, unlike that of the biological, never involves interference with their satisfaction in others.

It is also obvious why the ideal instincts are equally far from satisfaction. For the sensuous and temporal mode of apprehension, to which mind is at present confined, prevents us from forming the universal relations, except successively. The greatest work of art is felt, after all, to be incomplete by the true artist, and in this connection we may notice with interest some remarkable words of Mozart—"It is a rare feast," he says, "when I can sometimes hear in imagination the piece I am composing, both as a whole and in its parts at the same time." Had that genius been a metaphysician, he would have talked of "transcending."

Instincts, as being prior in their origin to self-conscious reflection, should be regarded as inevitable activities, necessarily concomitant with certain degrees of organisation in the universe. Similarly, iron cannot be imagined scientifically apart from the capacity for certain physical and chemical activities.

Our account, then, of "instinct" may be summed up as follows. Like any other mere partial aspect of the universe, we necessarily, as being of a certain nature, display activities towards certain other portions of the universe. These other portions thus assume a "meaning" for us. The ordinary object, which does not affect our welfare, has a meaning indirectly for the fundamental instinct of self-preservation, for it is noticed, but discarded, because, though similar to objects which can serve this instinct, it is tacitly compared and observed not to be identical with them. When we ask whether the universe as a whole has a meaning, we are practically asking if it can correspond to the moral instinct. For it is already seen to subserve the intellectual and æsthetic impulses; and in a future chapter we must inquire whether it may possibly become capable of exhibiting that moral relation which we can display towards each other. The total absence of this relation in the

behaviour of the various parts of nature towards us is indirectly the cause of much of our pain. Vainly we look for mercy from storm or sea, from poison or bacteria. Thus the moral and religious instincts cannot find their full objects at all, while the intellectual and the æsthetic impulses are only partly satisfied. For mind, though capable of the universal relations, can only *intuite* according to the sensuous modes of its activity; the intellect therefore, if it is to grasp the universe in any sense, must substitute for sensuous perceptions abstract *conceptions*, which, though applicable to reality, are not reality themselves. The sublime disillusion of the æsthetic and religious life are well known, as is also the almost inevitable tendency to the ruin of present happiness associated with all of these ideal instincts, if followed seriously and not balanced by comparatively exceptional combinations of other circumstances. The peculiar phrase, "the general misery" of the intellectual life, has confronted us three times independently in reading authors who were of different nationalities.

A word may be added on the well-known opposition of "heart" to "brain," or of "reason" to "feeling," often emphasised in poetry. It is, of course, quite a fallacy to suppose that intellect excludes feeling, though it often accompanies a greater power of hiding it. Stated accurately, the meaning is that the intellectual instinct, impelling us to range abroad through Nature, leads to discoveries, which seem to make it impossible that the moral and religious instincts can ever find their full objects in the universe.

It has, however, been pointed out that it is at least improbable that they could arise at all without the existence of an implicit object unless they infringe the scientific notion of absolute necessity, wherever an entity is found displaying an unpremeditated activity. Previous evolution, at all events, affords us no example of an instinct arising without an object to correspond with it. It is also obviously possible that the intellectual

Remarks on
the popular
opposition of
"heart" and
"brain."

instinct has not yet accomplished its work, which would include the final determination of the destiny of the physical universe and of the mental entity. But it is apparent that the parts of nature, as such, could not be expected to display a moral relation towards us, just as a man's legs, taken apart from his whole body, could not display teleological activities unless we recognised them as parts of a body previously known. The religious instinct, especially, which ultimately aims at intuiting the Whole, must necessarily outrun the capacities both of the sensuous activity and of introspection. Such writers as Schopenhauer do not take sufficient account of all types of fact, or of the shortness of human history, though they do well to bring into prominence certain aspects of life, such as the Will to Live. But they are too hasty in assuming that the ideal instincts can never find their true object. It may be so, but previous evolution affords some presumption to the contrary. In the chapter on God and the Absolute the researches of physicists on the destiny of matter may be shown to have possible bearing on this problem.

It is scarcely necessary to add that the term "instinct" is often used in several senses. The impulse to activity of some kind is the only one which need be considered in this connection, the activity of pure thought also being included under "action." This remark is apparently not unnecessary in England, where it seems habitual to suppose that, unless thought is directed and applied by the same individual to some narrow and immediate object, intelligible in all its bearings to the lowest minds, it is not activity at all. Pensive reverie and intense concentration on sharply defined problems have nothing in common. The present Prime Minister, speaking on education, has lately made a reference to this short-sightedness.

It is sometimes said that an animal acts in some special way by instinct, implying the capacity for displaying powers of understanding the possibilities of the environ-

ment, which we, on the other hand, should attain by reason. Or it may be said that the spider has the instinctive power to spin a web with reference to the habits of the prey. When thus employed to describe special reflex activities, dependent on previous evolution, the term "instinct" is used in a modified sense, which does not bear upon our present metaphysical purpose. Reference is made rather to the results of the exercise of an instinct (though a further impulse is thus often originated) than to the primary instinct itself. It is also often said that a person "instinctively" feels that another can be trusted or the reverse. This use of the term, whether merely expressive of the results of a slowly acquired experience, or possibly of some immediate intuitive faculty of mind, is not at present relevant to an inquiry which is concerned only with bringing into connection the well-established facts of mind and matter.

In concluding this chapter on the ideal instincts we desire to lay stress upon the fact that, after all, the actual feelings of average humanity as to the validity of the ideal instincts affords the main guarantee, whatever that may be worth, of the reality of an object in the universe corresponding with their aspirations. Does the normal human consciousness really acquiesce in a description of them, as *merely* built up during evolution from biological instincts? As metaphysicians we are accustomed to the conception and illustrations of transcendence, by which it is shown that a true whole, whether composed of physical entities or of psychical elements, is, as a fact, in our universe, for our apprehension quite a different thing from an aggregate. We should thus view, as a further illustration of that principle, all the successful efforts to reduce the ideal instincts to mere developments of the biological impulses. But were humanity to cease to *feel* them as ideal, we should then have no reason for supposing that these ideal instincts are now really something more than the mere aggregate of biological elements which compose them. Their

demand for a real object in the universe, corresponding with themselves, would then be worth no more than the demand of the incompetent theorist that the universe should endorse inadequate conceptual combinations and unwarranted manipulation of the separate facts of our sensuous apprehension. In so far as humanity feels the ideal instincts simply and directly in the totalised manner, which for the metaphysician is "transcendence," we are not liable to the objections directed against the well-known argument, "because we have the idea of a thing, it must in some sense exist." For thus a new and genuine whole (of psychical elements) is found, which is at least possibly capable of a permanent existence, just as the atom and molecule in physical nature are comparatively permanent.

CHAPTER IX

ETHER, MATTER, AND MIND

IT is now possible to enter on the innermost of our "concentric circles," and to attempt to give a description of each of the various types of existence, ether, matter, and mind, which will apply in some degree to the others. It will then be necessary to consider their relation to that which we have termed the explicit synonym for the universe, namely, the Absolute. This is taken as the logically necessary Existence (without reference, at present, to a God) including and transcending both mind and matter, the types of existence which our partial view, both of the sensuous and the introspective type, must intuit, as though they were quite separate and independent. Yet a direct contradiction to such a view is afforded by scientific observation in the discovery that gravitation is universal, and that, in the case of "mind," the efferent activity necessarily involves an afferent stimulus at some previous period. As regards the use of terminology, apprehension is to be our widest term; intuition refers to the *direct* apprehension either of the material world by the senses, or of our own mental series by introspection, and it also applies to our vague experiences of Deity (assuming them to be valid), which are not localised absolutely either in matter or our minds. Conception, on the other hand, is always *indirect* apprehension, which is only *applicable* to reality and not intrinsically related to it like perception,

Final comparison of the types of existence, mind, matter and ether.

as providing our immediate groundwork of thought, as far as it goes.

It may be objected that there is no scientific ground for separating ether and matter, for they are both amenable to the methods of the physicist. So little is actually known of ether that it may seem presumptuous to introduce the subject so frequently. But for our purpose, ether practically is matter below the point at which its properties admit of being visualised on the analogy of our ordinary perceptual apprehension of undoubtedly finite familiar objects. A dispute over the use of the mere terms which are to be employed must be determined by examining the reasons given for our terminology when we come to discuss the facts. In the meantime it will be remembered that the term "physical" was (arbitrarily) reserved for ether and matter, the term "material" for matter alone.

Our object is to describe—we need not say define—the types of existence, which we apprehend in various ways, so that they may be useful to each other in our inquiry. Whether we think of mind as the conscious stream objectified by introspection, or as the complete mental reality not yet elucidated, of which we can only say that it *acts* teleologically, it is hard to obtain any *common ground* which it can share with matter. The conscious and the unconscious have nothing in common, for one term simply means the absence of the other. Similarly, finite matter means nothing compared to "infinite" ether, for we merely signify by the latter expression that ether will not apparently submit to the categories under which we apprehend matter. We cannot hope to indicate the ultimately real qualities of ether, which is apprehended neither by the senses nor by introspection, but it is possible to do better with mind and matter, and we must then be content with recognising the fact that ether, taken alone, will not submit to our category. But it would be an error to omit its existence.

If we speak of matter as that which is finitely extended in space, we are merely mentioning a synonym. If we say that its ultimate entities are the impenetrable, we only mean that it cannot be penetrated by other specimens of itself. We do not know whether this is equally true of ether, for Sir Oliver Lodge states that experiments made by him at Liverpool show that ether is disconnected from matter. It will be understood that our metaphysical views would not be affected by the possible confirmation of those theories of ether which resolve it into a discontinuous substance. This would merely be shifting the problem of the infinite. At all events, impenetrability has no meaning in reference to mind, for the mere question is enough to declare its absurdity, except for those biologists who apparently are able to call "mind-stuff" the subject-matter of psychology, and at the same time maintain, in the face of the psychologists, that they are not confusing terms. To describe mind as possibly a form of energy is certainly preferable, so far as mere lucidity of thought is concerned. For at least we do not intuit energy under a definite heading, as we intuit matter in vision or mind in introspection.

Criticism of the various descriptions of matter.

It is evident that our conception must be of the most attenuated and abstract character when we try to connect the two opposite poles of thought under which we know the universe. Such a conception will have the highest possible degree of truth, and the least possible degree of reality. Such a remark at once suggests mathematics, the purely abstract, yet the most completely applicable to reality, as is shown by the history of physics. Our conception will, in fact, be of a mathematical character, on the one hand, yet the necessary element of "reality" must be supplied from another source. Mathematics does not fully absorb even physics, though the very men of science who have most vigorously attacked a misunderstood "pure reason" are often those who are the greatest masters of its mathematical form.

A conception which would apply to both mind and matter must be of a highly abstract character.

But biology, psychology, and sociology do not admit of mathematical treatment, and rely entirely on experiment and observation; it is therefore evident that metaphysics, which must omit consideration of no form of existence, must include in its formulas some elements which can apply to the subject-matter of these sciences. For this purpose it is best to look in the direction of the whole existence itself. If some elements of this nature be combined with the pure abstractions of mathematics, we may obtain a result which is true and inclusive of both the necessary aspects, characteristic of the relations between knowledge and being.

Heracleitus saw long ago that change and motion imply intrinsic plurality, and, confirming real metaphysics, scientific observation has shown us that there is no such thing as an atom of matter without relation to other atoms.

Plurality is
intrinsic in
finite matter.

A single molecule in the infinite ether may be conceivable to some minds, but at any rate it is neither the actually observed fact nor is it scientifically possible, if we confine ourselves merely to the fact, that gravitation is an essential property of a molecule. Plurality, then, seems to be essential to the material world; and it remains for us to indicate that it can serve us also in the comparison with mind. Matter must necessarily consist of disparate parts according to our actual observation of its behaviour, or otherwise we should not be dealing with matter as we know it. This plurality is the mathematical aspect of our account of matter, and we must presently consider how this description will apply to mind.

Such an account is in reality merely another way of saying that matter is finite. For when we deal with ether or any more remote substance which may some day be required by physics, and which is infinite, it becomes absurd to ask whether it is single or plural, or perhaps it is preferable to say that it becomes evident that the conception of unity, simple as it seems, is inadequate to the observed facts of reality. Ether

(under which heading we shall include any further entity which physicists may postulate) is not one, in the sense in which a material object may be said to be one, as opposed to two. We are here really returning to the statement in the chapter on the "forms of the mind," when pointing out that we can only apprehend an object as finite by tacit or explicit comparison with other objects. In fact, finitude or tacit plurality is synonymous with "existence" to mind, while still in the sensuous stage.

Later, matter is conceived on the one hand as finite, as opposed to infinite ether, but neither finitude nor infinity has meaning, as applied to mind itself. Plurality, however, which has been shown to be practically another aspect of material finitude, may prove more useful in our inquiry. Taken in reference to infinite ether, matter is merely finite, but its equally intrinsic attribute of plurality, which is really involved in material finitude, is not meaningless if applied to mind. It is often asked: Is the universe infinite? We have pointed out in the second chapter the metaphysical view of the astronomical discussion as to the finiteness of the number of *material bodies* in the world. We are here concerned with the fact that an infinite medium is necessary if there are to be finite bodies included in it, for if ether had a limit, it would at once be finite with reference to some entity beyond. If this entity be also finite, it would again have something beyond it, and if it be infinite, we have merely postponed the problem. It must now be evident that a plurality of finite bodies implies an infinite medium for our perception, and that Kant's view of space, as a "form of the mind," is necessarily correct in principle, though a further analysis of mind is needful in order to prevent misunderstandings as to the nature of the "reality" of space. If, then, it is asked, Is the universe infinite? it can only be replied that to human observation, however extended by telescopes or microscopes, it must

The apparent infinity of ether and the plurality of finite material bodies are essentially complementary to each other, both being equally due to the forms of the mind.

Question of the infinity of the universe.

continue to appear as a *plurality* of finite bodies in a more or less implicitly apprehended infinite medium, though we can, of course, concentrate attention on any one of these bodies. It is, indeed, possible that we might behold "black space" alone beyond all Milky Ways, but this would be merely another example of the fallacious tendency to stereotype one side of an experience which had been acquired in a different connection. The essential point, however, is that not only the infinity of ether, but also the plurality and finitude of the material world are due to the "forms of the mind." The universe, as directly intuited by the Absolute, would contain neither, as such. When it is asked whether the universe is infinite, we reply quite simply that the universe, among its entities, includes mind, and neither spatial infinity nor spatial finitude has meaning, as applied to mind. Therefore we cannot expect to answer a question which is put in a form directly excluding one portion of the entities concerned. But matter and ether (as at present apprehended) are essentially necessary to each other, as far as our ordinary apprehension is concerned, whereas we can and always do *picture* them in their present form without considering mind. Yet reason shows that this very form is due to mind itself, and to the peculiar stereotyping mode of its perceptual development in the struggle for existence, as discussed in the second chapter.

It is now evident that matter and ether can be paired in a manner to which mind, which apprehends them, will not submit, and thus the probable objection of the physicist to their separation is justified. But it was necessary for some purposes that they should first be considered apart, for the contrast of the infinite with the finite strikes very deep. It was only by this separation that we could arrive at the clear conception of a finite plurality (matter) and an infinite medium (ether) as necessary and complementary to each other,

on what we may term the "semi-sensuous" level. For ether is not actually *seen*, and the plurality of material bodies is of course not obvious, as *logically* necessary to the *sensuous* activity of mind, though it is indeed afterwards discovered to be the scientific fact.

It might also be said that ether is not "infinite," since it is dotted with material bodies, and of course we can also imagine, if we wish, that we can picture a pure infinite ether without material bodies, as was suggested in our second chapter. This is a mere matter of terminology. Call it what we will, and we do not propose to solemnise high-titled subdivisions in the infinite, it is evidently true (and this is all that we require) that ether, as apprehended by us, will not fully submit to being subsumed under the finitude and plurality of material bodies.

This view of the essentially supplementary relativity of "plural finite" matter to "infinite" ether is confirmed by several suggestions, such as that of Professor Hartley in the chemical section of the British Association in September 1903. "It became conceivable that matter, in the state of gas or vapour, might become so attenuated that repulsion of the molecules would be greater than the attraction: that they would then no longer form 'aggregates,' and in consequence would cease to be weighable. In such a condition they may be imagined to constitute the ether, and in view of this conception there may be recognised four physical conditions of material substances, namely, solid, liquid, gas, and ether." If it is true that the laws of gravitation and of the conservation of energy, as hitherto formulated, are not absolutely true, as may seem conceivable from some of the radium experiments, the discrepancy is possibly to be accounted for on the ground that too sharp a division has been drawn between matter and ether. The physicist, on other grounds, it is clear, will not regard "ether" and "matter" as completely separate types of existence; yet

we cannot avoid thinking of ether as "infinite," which at first sight seems completely opposed to the plurality of "finite" "material" bodies. It thus becomes more obvious that mind, being sensuously incapable of grasping the universe in its ultimate reality, stereotypes into the sharply contrasted "finite" and "infinite" that which men of science now suspect to be an evenly graduated series. This is included within a Whole, to which the term "infinite" is certainly inapplicable, and "finite," if applicable at all, does not also intrinsically involve plurality, which we observe to be the necessary supplement to "material" finitude. The determination of the form of the activities of mind, by its "arbitrary" association with a molecular aggregate of a particular size, cannot be too strongly emphasised. Comparison, followed by the stereotyping of that which is observed, as if it were absolute, is its very essence, though in dealing with the physical world relativity must be the only truth.

Matter, as Heraclitus saw long ago, is plural, as such; is it true that mind must also be plural? for we must consider this question before attempting to find our second formula for comparison.

Can plurality
apply to mind
also?

It is quite possible that this work has somewhat erred in not attributing sufficient importance to the social aspect of the development of mind, especially in reference to the ideal instincts. Though not prominent in our experience, it is continuously emphasised from Aristotle onwards (and also especially from anthropological sources). On our own present principles, it is only to be expected that mind would stereotype in its individual effort much that it really owes to others. We therefore admit that the social development of mind has been essential to the attainment of its present stage of elevation. Aristotle remarked that the completely solitary mind is *ἢ θεός ἢ θήριον*, either a God or a beast, and observation of savages has confirmed the view that plurality is as necessary to mind as it is to

matter, at least throughout its past evolution. There are comparatively solitary animals, such as the "rogue" elephant, but none entirely so, if the sexual instinct is taken into account, and in the case of the protozoa the possibility of a definite mental relation is not yet developed. But we are in reality only concerned with the possibility of the solitude of the self-conscious introspective mind of man, to which alone, as explained earlier, we are prepared to give the title "mind," as an actually observed distinct type of existence by evidence of introspection.

It is apparent that the question of time is involved. Self-conscious mind can think over its own thoughts and memories alone for a certain time, but as a rule it soon requires society. Material objects, on the other hand, are presumably always and intrinsically exercising a relation to each other, at least in gravitation. The truth seems to be that everything in the universe only exists by relations to that which is "external" to it (except the Absolute itself), but that mind, having developed the peculiar power of "externalising" or objectifying in introspection that which it can regard as part of itself, is thus able to temporarily "feed on itself," as it were, and be active without receiving energy from without.

In modern times, however, we realise that the ideal is not to shut ourselves off from society, as seemed desirable to the pioneers of philosophy, but to be capable of enduring solitude, if forced upon us. It is known that it is the mark of the lofty mind to have such abundance of thought that it can often dispense with external supplies, yet real solitude on a desert isle usually ends in lunacy. Evidently it makes some difference, if we only meet strangers in the street. Yet it is notorious that one of the greatest evils and source of evil in London is the enforced solitude imposed on so many thousands, and the efforts which are being made to remedy this loneliness by establishing suitable

Discussion of the social development of mind and of mental solitude.

combined dwellings are amongst the wisest of our reforms. But again, the greatest works are sometimes accomplished in solitude, and a little thought will show that they often owed their greatness partly to that solitude. In fact, even among truly intellectual men it is not very difficult to observe a difference between those whose higher life has depended mainly upon brilliant conversation with others, and those who have trained themselves to hours of concentration on definite problems in solitude. There are again those who seem to find Nature almost a sufficient companion. They would, however, hardly be satisfied if they realised the "atomic skeleton" of physics, or the seething charnel-house of biology which so cruelly underlies the fair beauty of Nature. Upon the whole, it is probable that the human mind, when highly developed, requires in health both solitude and society, and if this is the case, it may be claimed that plurality is not essential to mind in the same sense in which it is continuously intrinsic in matter. We have at least a common ground, to some extent, upon which we may compare the two types of existence. This discussion has also brought into strong relief the fact that "mind," being a purely temporal series in its present state, can neither wholly correspond with, nor be wholly alien to, matter in certain respects. We may take it, however, that mind, at the present stage of evolution, may for some appreciable time (as compared with the time occupied by the motions of such material bodies as we observe in vision) occupy itself otherwise than with matter or other minds. Thus it has ceased to be true that plurality is essential to mind, in the sense that it is intrinsic in matter. We may here compare the view of psychophysical interaction lately discussed. It was there held that one part of the brain may often play the necessary rôle of "external" to some other portion in producing the purely self-conscious stream of thought. For such a purpose it would be essential that mind

should previously exist for a long period in animals, while capable of nothing except the merely sensuous activity, supplied from the ordinary "external world," the stored energy of which is afterwards available for self-consciousness. We might illustrate from the National Debt, which is practicable, as an economic scheme, because it is never necessary to pay the whole capital. In proportion to its incapacity to endure (if necessary) the prolongation of solitude, the individual mind shows itself comparatively "material," so to speak, and unable to rise to the higher prerogatives of its nature. Such usually is the mind which has many acquaintances and few friends. But this does not in the least involve the assumption that it should deliberately seek solitude, except for some adequate ideal purpose.

We have described matter in positive and mind in partly negative terms, and it remains to reverse the process. The material world, as such, necessarily consists of disparate and plural entities, and with ether is added the equally necessary infinite environment.

But it is not thus essential to the world of minds that they should be many, for it seems possible for a single mind to exist alone, at any rate for a time, though such a condition is highly unnatural. It is indeed historically probable that there should be many minds, if the mode of their development was to be in connection with the necessarily disparate physical aggregates. But this is quite different from regarding plurality as intrinsic in mind's nature ; for, as a fact, we see that it is not continuously in evidence in the case of the latter.

Plurality is intrinsic in matter ; in the case of mind, though genetically probable, it is not intrinsic at the present stage of evolution.

We must now consider if there is any positive quality of mind which is not intrinsic in matter, but at the same time is exhibited by it at times, and thus has a real meaning when applied to it. Consciousness, of course, is utterly worthless for such a purpose. To say that matter is unconscious is merely a parallel to the old absurdity, that virtue is not triangular. There

are different types of negativity. Consciousness is the unique in mind, but we are seeking anything which it may have partly in common with other types of existence. Now the essential plurality of matter, as such, was guaranteed by the researches of the physicists, through which it appeared that the material object exists only in having various relations to other material objects. Even weight is one type of relativity to the external. We shall look then naturally to psychology for the required intrinsic property of mind.

Experimental psychology should indicate the intrinsic qualities of mind.

If we ask in what a sensation or a thought or any manifestation of mentality consists, it has been shown that a number of "sub-conscious sub-sensations" flash into a single conscious sensation according to the intensity of the external stimulus, or because they appeal to some strong interest. The latter may be supposed to be represented by the particular arrangement and habitual activities of the neural complexes, which, though themselves mechanical in activity, can subserve the conscious processes.

Any manifestation of consciousness consists of a number of sub-conscious elements acting as one whole. The latter are not experienced separately as mental events at all, though physically represented in the brain.

But it is always true that a mental manifestation, as such, is the totalisation into a single whole of a vast mass of previous, or sub-conscious, "sensations" or "ideas" or "feelings," and of their effects in reference to a particular crisis. Apparently consciousness exists by this very fusion. We can analyse the flash of consciousness into sub-sensations and into sub-conscious processes, but these have no share as actual entities in consciousness. Similarly when mind is merely active in the animal, without any trace of introspection, or feeling even of pain, the same totalisation is implied. For the apprehension or recognition of any definite object, towards which teleological activity is to be displayed, implies the use of previous experiences and a tacit selection and totalisation out of them to suit the present crisis.

We are not concerned with the mystery of the "first sensation," except so far as merely to point out that

this occurred before there was "mind" in our strictly defined sense. Mind, it seems, is that which can only act as mind in proportion as it totalises, for it is the result of a series of parts acting as a whole, yet its activity is mainly determined by the separate activities of the parts. They, however, are not, as such, manifestations of mind at all, but must either be described as sub-conscious (a mere convenient word) or otherwise neural, that is, material processes. Such, according to psychological observation, is the essential nature both of explicit consciousness and of the implicit agency directing "conscious" action (as exhibited by the animal). It is a means by which previous and present experiences are combined in a single concentrated whole, a form in which they are practically useful.

Plato laid stress on the simplicity of the "soul," which is one and indivisible: modern psychologists, however, must add that it is composed of non-conscious parts, which, in becoming a true whole, are transcended, as such, by the very act of flashing into a single instant of consciousness or of prompting teleological action. In the case of feeling the influence of the previous occurrences, sub-conscious or otherwise, affords an excellent illustration. If any intensely painful experience with reference to any particular person or object has occurred, the object, if again presented, even in a pleasure-giving relation, will call forth a mental manifestation, again of a painful character. Even a mere change to surroundings actually more cheering, without the least reference to such an object, may still sometimes be painful, simply because the mind is stirred and roused to contrast. For the feeling-tone on the whole is painful, if the intensity and fundamental significance of the original pain was sufficient to counterbalance the effects of lapse of time and the present pleasantness; and thus the "inconsistencies" of mind are produced, and we are pained at an occurrence which we confess to be in itself pleasing to us.

Comparison
with Plato's
view of the
simplicity of
the soul.

Illustration
from mental
pain.

This is due to the fact that every mental manifestation is a totalisation of the present and the past with reference to some particular present stimulus, external or internal. The opposite phenomenon, a cheerful feeling-tone in spite of a present painful stimulus, is rarer, but it is partly exhibited in the commonplace observation that, if favourable circumstances and temperament have induced a general cheerful feeling-tone, occasional trouble is *automatically* cast off. On the other hand, those who have suffered much by temperament or circumstances, or a combination of both, must make a special conscious effort of will to avoid falling into that chronic and morbid condition in which the physical neural processes become such as to result automatically in colouring consciousness with melancholy. Similarly, it often happens that when we see an object, the flash of consciousness carries with it the assurance that we have "seen" the object previously, though we may be also aware that we were not conscious of realising its existence on the former occasion.

Just as plurality appeared to be intrinsic in the nature of the objects of the material world, so totalised activity seems to be the essence of the mental manifestation according to psychological results, whether displayed in mere teleological action or directly observed in introspection. Thus there is an opportunity for drawing a comparison with matter, while avoiding the meaningless. We can reasonably ask, whether matter can act as a whole, but it is plain that the question cannot be easily answered, just as it was doubtful whether plurality was essential in the case of mind.

If an object acts as a whole, it must have parts, that is, it must be at least theoretically capable of division. Mind, indeed, cannot be divided into parts, except when regarded as resulting from the sub-conscious: and the sub-conscious is essential to the existence of consciousness, but itself is not conscious. It should be regarded as material in itself, yet only has

significance as sub-conscious, so far as susceptible to particular totalisation in the form of consciousness. Mind then has parts in a peculiar sense, yet it can only be rightly described as a totalisation, for its unique existence, as mind, consists in this very transcending totalisation. We shall presently point out that we habitually stereotype the universe in two perfectly separate types of existence, mind and matter, only on account of the imperfection of the forms of our own apprehension. Probably there is one great continuous process, and since we first stereotype this arbitrary classification, we are afterwards forced to recognise the fact of "transcending," which only the inadequacy of our own sensuous apprehension has made necessary. This statement avoids being a confusion of thought (such as that which is involved in the materialistic theories of mind-stuff) only when made subsequently to an account of the forms of the mind. The just claims of the pure psychologist are thus satisfied, for we admit that for his purposes mind and matter must be taken as utterly heterogeneous.

If we now consider the action-as-a-whole of matter, the question at once arises: What is to be taken as our whole? If we take a ball, or any other arbitrary whole, we are concerned with that which is from a truly physical point of view quite accidental, as shown in the chapter on Physical Individuation. We must then either take the irreducible entity or the whole material world. The electron certainly moves as a whole, but it is only conceived, as such, because we are forced to picture everything to ourselves as though molar. It is truly remarked in Preston's *Theory of Heat* that the error in the operations of Clerk Maxwell's "demon" lies in the fact that the molecule (in that connection taken as indivisible) is being unjustifiably *pictured*, as molar. The latter is the physicist's way of describing a whole that can actually, in real existence, be mechanically divided into parts. The electron's action-as-a-

Totalised activity is thus intrinsic in mind: it has been shown to be accidental to matter, for scientific explanation always proceeds by analysing into atoms.

whole, omitting consideration of the extremely limited character of its independence, is a fraud, for it has, as such, no parts, and we should therefore be attributing to it a quality which, in actual reality, it must possess in some different sense from that which we are picturing. For we cannot avoid imagining the electron (or any other entity which physicists may finally postulate as the smallest) as though it were something which we might theoretically divide into smaller *finite* entities, for such is the effect of the "forms of the mind." As soon as we find a real physical whole, in any sense, in Nature, the man of science proceeds to search for its essential nature in its parts, and, in place of a ball, he substitutes molecules and their interactions, rightly declaring that therein lies the physical reality, while the ball is the accident. On the other hand, psychologists prove that the essential reality of mind, as such, lies in the very fact that it is a totalisation and cannot be divided while still taken as mind. So long as we are regarding mind and matter as utterly separate types of existence, they are best contrasted as the representatives of totalised and atomic activity respectively.

The entire physical world also cannot be active as a whole. This is involved in the conception of infinity or incompleteness.

We may further consider whether the entire material world acts as a whole, but astronomical observation has shown that this is not the case. There are a number of stellar systems, not one inclusive whole, and since this is the actually observed fact, we need not lay stress upon the further statement that minds properly trained in psychological introspection cannot even imagine the motion of a single system alone through an infinite medium. In the earlier history of astronomy, attempts were always being made to find the "central sun" of the universe, and we see again in this tendency the objectifying and stereotyping activity of mind. There can be no physical *centre* in *infinite* space, and modern physiology also has long been engaged in correcting the somewhat similar notion that there is a central spot in the *physical* brain from which all activity is directed.

Mind alone is central in any sense, and mind is not to be described in terms of space at all, though it persistently strives to find its own full nature in the essentially incomplete, because quantitatively infinite, material world. This world it must still apprehend under sensuous forms determined by its animal origin, side by side with the display of ideal instincts, which, as we have attempted to show, are probably not without corresponding objects in the universe, when apprehended in its true reality as a complete whole.

It seems, therefore, that activity as a whole, which is the essence of mind, is applicable to matter in as partial a sense as that in which plurality was applicable to mind. A ball certainly can move as a whole (and be also at the same time molecularly active in its parts), and on the other hand minds certainly require each other to some degree, and so far are plural. But in each case that which is the essence of the one has become an accident in the other, not universally applicable, and thus we have a common ground for a real comparison. The fact that the intrinsic nature of each type of existence occurs, though accidentally, in the other, confirms the belief, lately mentioned, that we are really dealing with one continuous process. Matter, so to speak, is always found attempting to act as a whole, but up to the point at which the psychologist takes up the inquiry, we find it necessary to reduce it again to atomic activities, in order to understand it better. Even the psychologist, however, requires physiological knowledge for certain purposes, thus indicating again that mind, as we know it, represents a transient stage. Our objection to the monism of such writers as Haeckel is merely that they lay stress upon that aspect of the whole process which is in reality the less important. To call mind a form of the physicist's energy is uncritical reasoning, if we have not first inquired how mind has come to realise the existence of energy. The various activities of the neural masses in the brain itself are merely

physical forces, yet we know that as a whole the brain directs purposeful motions. Probably the external physical forces are simply sections of the activity of the universe as a whole, the ultimate character of which would exceed our comprehension. But since a mere portion of it, totalised in our brains, is mind, it is not unreasonable to suppose that the whole would be more akin in its attributes to mind than to physical energy, though transcending both.

Consequent
contrast of
mind and
matter, which
have, however,
only been pro-
visionally
treated as
utterly separate.

Ether, as such, cannot act as a whole, because it is not amenable to being described as a whole, being infinite, so far as is known. But since it has been shown that matter and ether, as apprehended by mind, are necessarily complementary to each other, the plurality of matter being essential to its combination with an infinite medium, we are now justified in reducing our three types of existence to two, namely, mind and the physical world. The further reduction to one great process, which we have just mentioned, is in the full sense of the term impossible for us; since we actually apprehend ourselves, as one of the two types, we can never *picture* to ourselves that which transcends and combines them. We can only observe that mind seems inseparable from matter, as matter also is inseparable from activity.

Thus it appears that the entire physical system, including ether and matter, is that which essentially neither can be a whole nor act as a whole, this practically being the meaning of "infinity." Mind, on the other hand, is that of which the essence is activity as a whole, in so far as it is actually existent as mind. But this activity is also selective, for it is equally characteristic of a flash of consciousness that it does *not* include all the possible content of the mind in any given manifestation of mentality. Mind exists by being a totalisation, but at the same time it always contains potentially more than it actually totalises. The validity of our results depends upon the essential

truth of this description of mind, as that which essentially totalises in this manner. We are, however, only utilising the first commonplaces of psychology.

We can now return to the conception of the Absolute. This has been shown by previous writers to be logically necessary on the ground that all conceived entities, which we can consider, may ultimately be proved self-contradictory. Therefore they are either truly non-existent, in which case it is not possible to see how they can present an appearance to us at all, or otherwise they are only parts of a larger whole. For even an hallucination requires the existence of some entity, physical or mental, with some special quality, either at the time of its appearance or previously. This line of reasoning has been criticised by a demand to the effect that it ought to be shown how the parts can be thus included, or by the crude dogma that we can see and feel that there is absolute plurality. So far as the latter criticism is concerned, it would equally collide with the unseen gravitation of science, not to speak of the obvious reflection that if our bodies were large enough, all stellar systems, like some nebulae, would be *seen*, if vision is to be our only guide, to shrink into one. The evidence of facts guaranteed by the senses must indeed be our sole basis for reasoning, but we are also forced to assume through reason more than we actually see or feel, nor could men of science otherwise proceed a single step in explaining the changes observed in "actual facts." The former objection is unjust, for, being merely parts of the universe, we cannot expect to be able to elucidate the *positive* details of its character as a whole. But we may show that such unification is logically necessary, and also that scientific observations, which lead to the postulate of universal gravitation, and psycho-physical interdependence, can give us some actual evidence of this truth.

Objections to this monism have often been largely due to the secret protest of the religious consciousness,

Application to
the metaphysical
conception
of the Absolute.

which cannot, if honest, find a God in the Absolute, as represented by some metaphysicians. But it is the mark of the pure intellect, not indeed to disregard such protests, which is the illogical procedure of materialism, but to give them their due place as observed psychical phenomena among the other observed psychical and physical phenomena. It is evident that our chapter on the ideal instincts has made the question of the compatibility of a God with the Absolute a properly metaphysical problem. For metaphysics is only concerned with the ultimate truth in reference to observed existence: and consequently when it is realised that the religious consciousness, which demands a God, is, according to introspective evidence, one psychical fact amongst others, it becomes a matter for metaphysics to inquire as to the possible existence of such an object corresponding to the religious demand. It might, indeed, be said that this psychical fact in reality includes all others, and that if it does not always seem to do so, it is because the religious feeling is wider than those of its elements which have usually monopolised the name. Professor James, in his *Varieties of Religious Experience*, certainly admits many attitudes of mind as truly religious, about which popular sentiment would hesitate. Thus he accepts the intensely earnest feeling of a noble rebellion against the ordinances of Deity when these are apparently revolting to our moral sense, but he rightly rejects a cynical or indifferent standpoint. Meanwhile we do not propose to repeat the Hegelian reasoning in *Appearance and Reality* which led to the logical necessity of the existence of the Absolute, as the all-inclusive Existence transcending, as such, both mind and matter. Our position with regard to the controversy on this point may be thus stated. We admit the force of some of the objections which are brought against the construction of the Absolute, but we do not see our way to denying ultimate unity, and for our purpose this is sufficient. But we may point out some

confirmatory evidence from our own train of thought. The physical system, in which infinite ether has been shown to be necessary to a plurality of matter, but is thus itself necessarily limitless, stands convicted of incompleteness by the very word "infinite." Mind, which exists in the totalising of a content, which, at the same time, being selected, is never its whole possible content, is thus equally shown to be incomplete. Now mind in every instant of its manifestation displays before our eyes an exquisite specimen of "transcendence." For a flash of conscious sensation, as proved by psychological science, actually consists in the transformation for our apprehension of a number of sub-sensations (through the effect of some stimulus at least relatively external). These were previously represented only in terms of material neural action, but now become one new entity of a "different" type of existence, conscious mind, which is yet essentially determined by their previous nature. In face of these facts, indicating by the fresh evidence of scientific research the truth of that monism to which philosophy has always tended, it seems possible that a lack of faith in the guidance of reason may be responsible for intellectual dualism or pluralism, except where due to the protests of the religious consciousness, whose claims are to be considered in the next chapter.

At the same time it must not be supposed that those writers who criticise Mr. Bradley's work are being accused of the cowardice of not playing the intellectual game to its conclusion. Their aim is usually somewhat different; when in *Personal Idealism*, and in Mr. Hobhouse's *Theory of Knowledge*, it is held that his treatment of the "self" is not complete, it is not improbable that this is true, since he was obviously in the main set upon the consideration of the Absolute. It is not dualism, but the just claims of the human personality, upon which stress is being laid in *Personal Idealism*, but it is possible that monism does not exclude the views, there expressed, which

will in fact be utilised in the next chapter. A serious apparent objection against monism may seem to be urged by Shakespeare, in a saying dear to the "plain-sailing" Englishman, largely because it seems to excuse his lack of intellectual interests—"There are more things in heaven and earth than are dreamt of in your philosophy." It is of course quite possible that there are types of existence which have no connection with mind and matter.

Ultimate unity, which is not, as such, synonymous with God, has been proved to exist by previous authors. To this extent it is not unknowable: the nature of its relation to ourselves can be illustrated from scientific researches in mind and matter.

But it may be pointed out that our views cannot be affected by this desirable possibility, just as it would be irrelevant to them, if it were proved that the creation of life was in reality a miracle. Either such possible unknown types of existence are capable or incapable of having some kind of relation to us at some period. In the second case, there may be another universe and another Absolute and God, or mere chaos, but if it is truly and utterly independent of mind, we can fairly urge that the sternest conception of intellectual duty does not call us to investigate such a problem. It is not a problem, for a "problem" is characteristic of mind. If, on the other hand, such types of existence are capable, either at present secretly, or in the future, of entering into relation with us, they cannot themselves be complete, for otherwise they could not have relations to us except as a whole to its parts. Mind, as we have seen in all metaphysics, cannot apprehend anything, without infecting it with its imperfect forms of apprehension, whether nature, other minds, or the Absolute are concerned. Consequently such alien types of existence, being themselves incomplete, would merely enrich the positive character of the all-inclusive Absolute. Such a possibility would only falsify our view to the extent that our conception of the Absolute would be even more incomplete than it is at present, if there are only the physical and the mental types of existence in the universe, when regarded in its parts. We do not attempt in this work to detail the positive character of the Absolute, but we maintain

that some ultimate unity must logically exist, and that its relation to ourselves and the material world can not only be within limits, determined, but also can be illustrated by the example lately quoted, namely, that mental activity is a series of material activities transcended. It is a different question altogether, soon to be considered, as to whether a God is logically involved in this conception. Previous efforts warn us that it is not probable that the existence of a God can be proved. But we believe that the possibilities of this question are likely to be most adequately set forth through the means of a thorough investigation of the nature of existence. To this should be applied the aid of scientific detail, but such investigation has always culminated, if not immediately, after consecutive development through several writers, in the conception of an Absolute as logically necessary. It may be said that the Absolute only follows from an intellectualist standpoint. The Voluntarist method, however, does not exclude some ultimate unity, which seems to us so necessary on purely scientific grounds. When this controversy has taken more definite shape, we hope to consider its results from our own standpoint of the application of science. We suspect that the demand for pluralism or dualism, which seems as essential to some aspects of our being as unity is to the intellectual side, would find its explanation in an exact understanding of what is involved in the morphological *centralisation* of the nervous system being the condition of *self-consciousness*.

We can now recapitulate our position. The universe, taken in its parts, so far as we can observe it, consists of one type of existence, which cannot either be a whole or act as a whole (namely, the material-ethereal system), and of another type, the mental, whose existence, as such, intrinsically consists in being and acting as a whole. Also the fact that mind's existence is this action-as-a-whole, seems to involve intrinsically

Recapitulation and result. To exist for one's own apprehension (partly illustrated in self-consciousness), to transcend, and to be capable of forming a relation with the whole universe, are synonymous.

that it also transcends the material activities, which form its parts. We cannot, again, from the nature of the case, prove this suggestion, but only point to invariable concomitance. For the worthlessness of the action-as-a-whole of any molar material object, such as a ball, is illustrated by the fact that men of science take no note of its totality as essential, refusing to admit that it has any relevance to its true reality, taken as material, which rather lies in the atoms, which compose the ball, and in their interactions. This is the necessary reduction of Nature by science into the skeleton of atoms and molecules. The molecules and the atoms are of course real wholes in a sense and for some purposes, but as soon as the physicist attempts to explain all the changes involved, he must proceed by further reducing them to the atom and the electron respectively. Thus we prefer to substitute for matter and mind the atomic *method* of activity as contrasted with the totalising. Psychologists also use the same atomic method, which is intrinsic in the "forms" of our mind, but, in contrast to the procedure of physicists, they admit that by this reduction the actual entity, consciousness, has vanished, for it consists in the very totalising. But the necessity of physiology to psychology indicates that even the contrast of totalising or teleological with the atomic or mechanical activities is not absolute, as is also shown by the fact that we cannot mark the point at which either consciousness or self-consciousness appears in evolution. But stereotyping mind cannot work at all, save by some provisional classification, and this division carries us further than the other modes of marking off types of existence. We may, if we wish, describe the universe otherwise. Thus the atom transcends the electrons by the display of new qualities, as being an atom, and the molecule similarly transcends the atoms and similarly upwards. But in this terminology the distinction, so far as it exists between mind and matter, is not wholly blurred, though the

terminology is altered. For it would remain, in so far as all such previous transcendings merely consisted in the display of new relations towards *parts* of the universe. But the human mental relation, as mentioned earlier, begins to be universal in its possibilities.

Mind, as it seems, exists merely in totalising, whereas material entities, in attaining a higher degree of totalisation, also retain their qualities, taken as parts (for the molecule in "transcending" the atom does not, for our apprehension, lose the qualities dependent on the electron). Mind is thus an example of transcendence in a new or the only sense, according to our usual terminology, which is also concomitant with the capacity for displaying "the mental" relation of its own with the whole universe. It seems therefore not unlikely that the essential nature of the Absolute, which is the ultimate Whole itself, would be for us best expressed in terms of transcendence. In the older phraseology mind was regarded as that which could exist for itself, whereas matter was the thing-in-itself (a description quickly shown to be self-contradictory). Apparently that alone, which either is the Whole, namely, the Absolute (since it includes all existence), or which can in its peculiar manner exhibit its own relation with the whole (namely, mind in the ideal instincts, the latter appearing concomitantly with self-consciousness), exists *for* itself. We have no evidence that anything else exists for itself except self-conscious mind.

As a final statement, it is held that the existence of an entity *for* itself, genuine transcendence (that is, without the retention of any of the properties of the parts, *as existing entities*), and capacity for forming an universal relation of some type, are three descriptions of the same fact. Mind obviously does not include all material entities in the same sense in which the Absolute includes them, but it is equally evident that, in some real sense, nothing can be wholly external to mind in

its manifestation of the ideal or universal instincts, as discussed in the last chapter. For we are always attempting to apply even the moral instinct to Nature, though scientific observation warns us that the time, perhaps, is not yet ripe.

We do not claim to have proved this view, for it has been shown that we can hope for nothing more than the exhibition of invariable concomitance. The logical necessity of the existence of the Absolute (otherwise the truth of monism) seems to us to be inevitable, unless we are to discard the intellect altogether. To say that things as separate are not self-contradictory, simply because we see them to be real and act towards them as such, appears to us to be refuted by scientific evidence, which postulates various modes of connecting them. But it is a different matter to describe the qualities of the Absolute as such. We have not, of course, attempted to indicate what the transcending characteristics of the Absolute positively mean *for itself*. For such a purpose we should need to have determined the controversy between humanists and Absolutists. We have a direct experience of what transcendence is to ourselves; it is consciousness: and we have endeavoured to show that by the application of the researches of physical and psychological science, it may be possible to indicate the invariable concomitance of certain qualities in entities, such as the psychophysical organism, which have some characteristic of the Whole. Proof is certainly impossible, because we are dealing with the Whole.

It may be noticed that such conceptions as causality, space, and time have never been treated by themselves as separate subjects. We were anxious not to drift from the consideration of actually observed entities as our subject matter, in connection with which all that is necessary to metaphysics, with reference to causality, space, and time, might be casually introduced. For metaphysics is the theory of existence as a whole.

Such conceptions might, of course, be made separate subjects for research, but we believe that Mr. Russell, in his *Principles of Mathematics*, is justified in claiming that space, *taken alone, as abstract*, is really a subject for mathematical treatment in the present stage of the development of thought. Similarly time, taken alone, is rather a matter for psychology, and causality, if regarded as ultimate reality, is a makeshift necessary for the mind, which has not grasped the principle of transcendence. Could we conceive the whole universe truly totalised, both temporally and spatially, causality would be transcended. Similarly a vast quantity of the neural matter in the brain with its connecting activities, which for microscopic investigation would be revealed as capable of infinite temporal and spatial sub-division, are merged for our own apprehension in the single instantaneous flash of conscious mind.

CHAPTER X

GOD AND THE ABSOLUTE

Contrast of the dissimilar attitudes of mind natural to the consideration of these two subjects.

IN approaching such a subject from the purely intellectual standpoint, it is not out of place to begin with the consideration of the attitude of mind, which there is reason to regard as befitting the problems, to which this chapter is especially devoted. It has been pointed out that for metaphysics analysis of the conception of God is a secondary object, following on the discussion of the ideal instincts in the human mind. The Absolute, on the other hand, is purely one among the many creations of the intellectual instinct, and, as lately remarked, is simply an *explicit* synonym for the universe. Thus it is entitled, as such, to no further reverence than is accorded, for instance, to the principle of the Conservation of Energy, or any other scientific conception which is valid (for most purposes), but has no special claim upon our own whole nature. The Absolute can be no real object to the human religious consciousness, except through mere intellectual incapacity to grasp the meaning of the metaphysician. On the other hand, the religious consciousness was active among savages, even before the conception of God had received an explicit shape. Whatever may be our conclusions as to the actual "existence" of a God, there is therefore good reason for regarding such an inquiry as essentially different in character from the consideration of the Absolute. The sense of reverence, which we cannot feel towards an abstract intellectual conception,

seems to be among our inevitable psychical phenomena, and has an ennobling influence, provided that its object is also intellectually conceived in a worthy manner. It is plain that the higher forms of religious experiences, whether endorsed by the universe or otherwise, are generally felt to merit genuine respect. It is to be hoped that some reason for this instinctive attitude of mind may be brought to light, and it is also intellectually desirable to distinguish it from our regard for the Absolute. Only a fool ridicules the instinctive "intuition" of a God, whether the latter be justified in its explicit form or not, but many wise men have parodied inadequate *conceptions* of the Absolute.

There is an instinctive belief in the ordinary mind that reasoning about God is futile, if not impious, and we admit that we regard it as probable that attempts to prove or disprove His "existence" are not likely to meet with success. But we must, as usual, discriminate between popular instinct and the invariably erroneous form in which it expresses itself. As an actual fact, the entire history of mankind has borne witness to the continuous effort to express the idea of Deity in a form which would satisfy both religious instinct and critical reason. Since men are not usually born with the capacity for an equal development of both of these faculties, different individuals have contributed to this evolution in opposite ways, the comparative rarity of the strong thinker always causing him to be regarded with suspicion. But we must remember that the mere idea of Deity has been raised during the course of history from an Ephesian meteorite to our present monotheism by the human intellect alone, especially that of Plato. Hence, though religious feeling on its side has slowly transformed Him from a horde of devils, which must be glutted with blood, to the God of Love, it must be obvious that the intellect has its rights even in this matter. Its true aim can only be the characteristic determination to do absolute justice to all the facts,

Popular instinctive dislike to intellectual criticism of the conception of Deity.

and this means that not only the scientific conceptions of nature must be considered, but also the religious instincts of mind must be given their due place, as equally observed phenomena. Materialism avoids all difficulties by simply omitting the latter, and it is easy to produce a mechanical monism, which is already presupposed, if we only take account of the phenomena of nature, which are all active according to one principle. The recognition that we only face the problem, when we attempt to reconcile the teleological with the mechanical, or at least to explain their interrelation, is the first challenge which meets our efforts to describe the universe in terms which at least are not contradicted by facts. As to the question: How can you even begin to reason about God? the popular religious instinct itself, by its slow selective modification of dogmas, has long ago provided the material, now embodied in the creeds, and it only remains for the intellect to sift the consistency of the results, and to compare them with the conclusions of the scientific observers of Nature.

The intuition of Deity is always in some degree unique to each individual and race, while descriptive language is a convention common to all.

We must first be clear as to the exact object at which we are aiming. We are no longer examining and analysing in turn all the observed entities of the universe with a view to comparison and elucidation of their ultimate nature. But we find that normal human nature demands the existence of a certain type of Being, without concerning itself with the consideration of scientific facts, and we desire to know whether the results of observation are compatible with such an Existence. And it is immediately plain that we must now leave the firm ground of pure intellectual analysis. For what is it exactly that the religious consciousness apprehends? Reason we have in common, but no one can communicate his religious experiences to another, for the very words used for such a communication must be the common creation of the intellect, and cannot therefore convey the unique experiences of the individual.

If we could discern the most truly "religious" being that the earth has produced, we should be no nearer obtaining the information required. It may not, however, in such an inquiry, be necessary to be so accurate. The experiences of the average masses of humanity, becoming explicit in the man of religious genius, have developed the expressive creeds of the great religions, and their accounts may be sufficient. Must we, for instance, consider the lowest forms of fetish-worship? It is perhaps allowable to eliminate those forms through which the greater religions have already passed on the road to a higher conception of Deity. We can understand the savage, but he cannot understand us, and we need not have an undue respect for his crudities. The case is, however, different when we reflect upon the great religions of the East. According to the author of *The Hearts of Men*, who seems to have a close sympathy with the Buddhist mind, a comparatively scientific conception, resembling that of Law, has been evolved by the more intellectual Asiatics, as characteristic and expressive of their religious experiences. On the other hand, according to many accounts, the popular Oriental feeling about Deity, though scarcely finding expression in a positive form, at least does not display any strong sense of Divine personality, being contented with the personality and moral teaching of Buddha, the prophet. Against such a lukewarm intuition of Deity the European passionately protests, but we cannot disregard the mental attitude of the Orientals, so large and highly evolved a portion of humanity, especially when their explicit and rationalised account approaches so nearly to the scientific conceptions of our own minds. At the same time, we should make a greater error if we were to ignore the feelings of the European. It is false modesty, in view of his evident creative energy and productive power in all directions, our only reasonable criterion of personal worth, to belittle the value of his religious conceptions. Moreover

(though we speak under correction) it seems hard to find the typical Oriental capable of expressing the exact meaning of his thoughts. The more evident that it becomes that he is the possessor of valuable and unique experiences, the more we regret the general absence of the expressive power of the clear-cut Western intellect, which at least knows exactly what it has comprehended and what is obscure. The East was making a secret, half-understood mystery of hypnotism while the West was foolishly ridiculing it, but the organised advance of psychological science, once in full working order, will quickly outrun the sporadic knowledge of Orientals, who seem neither able nor willing to expound their experiences. On the whole, therefore, we will take the European conception of God as our model, but we also hope to indicate (in the last chapter, for a special reason) that this apparently fundamental divergence between East and West is not so relevant to the issue as might seem probable.

Summary of
the general
European re-
ligious concep-
tion of Deity,
as formulated
in modern
Christianity.

The European knows what he wants, and if he is persuaded by masses of evidence, usually of one type only, that it is not to be attained, he usually displays his superiority in being genuinely troubled by the failure. For the normal energetic European there must be a personal Deity, and He must be *effective*, or at least He must have constructed the universe, so that "in the end" right will prevail. Love, in the highest sense, and not the fiendish struggle for existence, must be the final law of the universe. It is also fundamental that God Himself was capable of suffering and self-sacrifice, and this is perhaps the secret of Christianity, for it has rightly been emphasised by Browning that, were this not the case, the Creator would be morally inferior to some of His created. It cannot be expected that the metaphysician should be the best exponent of religious feeling, but this account will perhaps be accepted as roughly correct.

On considering such remarks, the intensity of the

contrast with the conceptions of natural science is cast into the sharpest relief in the view of the mind, which is almost wholly occupied in the appreciation of the researches into Nature. Yet there is danger of the mind being overwhelmed by the mere irrelevant quantity of the material details of science. Nature is all of one principle, and it is of no importance how great is her compass, for we are solely concerned with the consideration of the contrasted mechanical and teleological activities, even if the latter were only exemplified in a single instance. It is only reasonable that the strong mind should strike a straight balance between the two types of activity displayed for our apprehension by the universe, and regard the rarity of mind as more likely, if anything, to enhance than to depreciate its value and significance.

Contrast of the mechanical working conceptions of physical science which need metaphysical criticism, if taken as ultimate.

We are now in a position to inquire whether it is possible that there is a personal God? We must first determine what exactly we mean by a person. So far as our present actual observation goes, a person is an aggregate of matter acting in a particular manner. We only infer his "mind" from observing that his body acts according to a plan, which we connect in our own case with our own mental experience. We are not, however, considering in this connection the difficult metaphysical question of the origin of our capacity for apprehending the existence of other selves; it is probable that this power cannot be explained without widening our ordinary conception of mind in a manner which could only appear as hypothetical in our present state of knowledge. Fortunately this question is not involved for our present purpose.

Personality of God—analysis of the meaning of a person.

The expression of a face is not the "soul," if the latter is taken as something which might be apprehended separately from matter. The expression is a particular habitual set of muscular movements, which, probably by experience, we associate with certain mental traits. It has been truly remarked that the

A person appears as a finite portion of matter distinguished from the remainder by a special mode of activity as a whole.

characters of the old, despite superior powers of dissimulation, are marked on the face more clearly than those of the young. We do not, however, absolutely assert that there is nothing more than this experience. But even if there is also combined with it a direct intuition of some type, mainly displayed perhaps by women and children, it is not needed for our purpose, for it would merely afford a parallel to that vague religious intuition of God which we are now considering, and it is certain that it is not particularly trustworthy, though its possessors are often convinced of the value of their "first impressions." Those who hope to "see" God, certainly hope for some more definite "intuition" of His personality than this doubtful consciousness of His presence.

The eyes, if allowed to appear alone, uncovered, have no expression. It lies in the face, *as a whole*, though particular formations of the jaw, chin, forehead, are to some extent associated with certain mental characteristics. Thus a very prominent chin without much forehead, to judge from the prognathous African tribes, indicates mere bestial energy. Accurate observation, however, tends to show that the novels greatly overrate the trustworthiness of this mode of judging character. Judgment by handwriting, etc., is often falsified by its failure to deal with the case of the man who, freely recognising his own faults, consciously concentrates his whole force upon them. *Naturally weak* force, if thus *intelligently* concentrated, often triumphs, but could scarcely alter the adult physical characteristics of face or fingers.

Thus it would seem that there is no external difference between a child and a rolling ball, for instance, except that the motion of the child has a special meaning for our social, moral, intellectual or æsthetic instincts. It is true that, were this table to begin to address us as moral beings (sounds of a voice being also of a physical character) we should not at

once accept it as a person, but our attitude would be due to mere force of habit. Again, if the whole earth were suddenly to assume a moral relation to us, we should be too small to apprehend its kindly efforts. It has been suggested that a certain behaviour of bees towards men indicates that they may not always, in moments of excitement, distinguish the slow movements of the hand from physical processes of Nature. It is evident that Nature, if it could be taken as a whole, might have a moral relation to us, but we should never know the fact; since, however, we have seen in the last chapter that the physical world is essentially infinite, that is, incomplete, it seems that Nature could not possibly display such a personal relation towards us, for a personal relation is only displayed by a finite whole. Mind, also, is incomplete in another sense, as shown in the last chapter, but it at least essentially totalises a finite quantity of matter, namely, the "body," and it is by means of this matter that it can display its moral relation.

We have therefore this result, that physical nature cannot possibly display a moral relation to humanity, because it is infinite as such, but that if by a miracle a finite portion of nature could continually produce those particular combinations of atmospheric vibrations which we regard as words, and consistently move in a manner that would correspond with these words according to our own instincts, we should admit that it was a person, as far as we could see. Similarly an electrified corpse can be made to assume an expression of horror, the necessary violent contortions being easier to reproduce than the delicate shades of mind in repose and self-control. Again, a man, who had only seen and heard of animals and birds, might be in doubt what to think when confronted by a serpent, especially if its eyes were not prominent.

Physical nature, then, if only because it is for us infinite, that is, incomplete, could never appear as a

Physical nature could never display personal relations, if only because it is infinite or incomplete, and therefore cannot act as a whole.

person to us, nor can it display a moral relation. (It is, of course, to be understood that the term "moral" is here used in the widest sense, including that unconscious adaptation to the whole nature and all claims of others which, upon consideration, are seen to be necessary, even when we address an enemy.) But we must now refer to our statement in the last chapter, that the ethereal-material system is apprehended, as such, through the sensuous forms imposed upon mind by its peculiar evolutionary origin. These sensuous forms, however, are no longer adequate to the whole experience of mind in its maturity. There is also the mental series of psychological introspection, and the religious consciousness itself is far from looking for its object in the sensuously apprehended types of matter. It deliberately scorns the representation of God in idols of wood and stone. The problem, therefore, assumes a different aspect. No man has seen God at any time, and no man expects to see Him in this life. The question of a future existence is therefore involved.

If our personality were to survive death, it would at least lose the sensuous forms of mental activity, so far as they are dependent on connection with a physical frame of a particular construction.

Now, whatever may be the truth in this quarter, it is clear that mind, if it can exist after death at all, will be probably incapable of apprehending according to the exact *sensuous* "forms" which now depend upon its connection with a body composed of physical molecules combined in a particular arrangement. Whatever might confront us, it could scarcely be the ethereal-material system as at present apprehended. Consequently, if we existed at all, we should also cease to associate the idea of personality solely with a certain type of physical frame, because we should be observing our friends in some different guise, of which all that can be said is merely that it would be different. This prospect of change seems uncanny, but such an objection has been proved worthless many a time, when we have undertaken something strange, which we afterwards come to prefer. All that is needed for our purpose is the recognition that under such circumstances our sole

criterion of a personality would be the exhibition of the moral or intelligent *activity* towards us by the being or the object (observed), as a whole, in the widest sense previously mentioned, apart from any special appearance it might assume. And as to what such "appearance" might be in a sphere of which the vague, unlocalised series of our present psychological introspection and the dubious intuitions of "religious ecstasy" afford the only hint, it is clearly useless to make any suggestions. Mind, apart from a finite body, such as we know, might be clothed in any form, as is plain from our present experience of the elusive psychical series of introspection. But in the next chapter such possibilities will be considered and reasons will be given for supposing that separation of mind and body is not a necessity, if there is to be a future existence for us, and is probably an impossibility.

But it is certainly worth while to lay stress upon the fact that if a future existence is possible at all, and if a moral God is also metaphysically conceivable, our investigation of matter, mind, and the "forms" under which mind exercises its present sensuous perception of the physical world, suffices to give this amount of information. The construction of the universe, as thus observed, would not then *exclude* His becoming directly apprehensible to us, as a Person in some manner at present necessarily unknown, by the development of the religious consciousness. The latter at present is hopelessly hampered by the sensuous forms of the mind. Even if He be regarded as merely an aspect of the metaphysical Absolute, this position is not affected.

We have still to consider the question involved in this last sentence. It has been said that our present incapacity for intuiting God clearly is *logically necessary*, since mind is so situated as to be forced to sensate in terms of a plurality of finite objects in an infinite medium (second chapter), but that since this "form"

The sensuous forms of the mind, inevitably presenting to us an infinite world, must prevent a clear intuition of God as a Person, even if He is such.

cannot survive death, it could then at least become *possible* for the "Absolute" to be experienced as a "person," a term which seems likely to prove synonymous with genuine finitude.

Infinity is not in the least applicable to a personal God, but the "finitude" of the all-inclusive Absolute would be quite a different thing from human finitude, which implies a world external to man.

In this connection it is important to remember that the testimony of the highly developed religious consciousness has always been to *union* with God, a significant fact in reference to the reasoning, by which the Absolute must include mind itself, as well as the ethereal-material system (however apprehended) both before and after death, if mind can survive the latter. It is also curious to reflect that the term "infinite," so freely ascribed as an attribute to God, refers to the one quality which, if truly applicable, would render Him for ever completely unrealisable in any degree by us, as a person, but of course it is understood that in popular usage the term is not used with any definite meaning, but employed merely because it erroneously seems to assign a fitting grandeur to the conception of Deity. It is extremely important to observe that there is at present only one example for us of *genuine* finitude, that is, of an entity which essentially exists, as such, by acting as a whole, as opposed to action atomic and continuous with "the external." And this we always call a "person." We cannot scientifically draw the line anywhere between the "parts" of Nature. In this respect the accurate thinking of the Greeks, with their horror of "the formless or the infinite," *τό ἀπειρον*, is fully justified. Dr. Howison also lays stress upon the fact that a certain finitude rather than infinity should be attributed to God. But the qualitative finitude of the Whole is obviously something quite different from the finitude of man, which implies an external, and requires plurality of beings intrinsically as its supplement.

We can now attack the main problem, the possible relation of the God of religion to the intellectual creation, the Absolute. We believe that the feeling

that God must not only be the universe, but must also be something over and above it, might be intellectually justified if we could only determine in what exact respects human self-consciousness owes its characteristics to its limited origin and circumstances. For even our spirits both are themselves and more than themselves. In this direction we believe that the truth lies, and it would not wholly invalidate our present discussion. It is often said that the Absolute does not satisfy the facts, but the conception of God as one finite being among others seems even less convincing. The Absolute is thus taken for our purposes as the whole of existence, which according to metaphysical analysis must possess a further essential quality, intrinsic in it as being the Whole. This is unintelligible to us only in the same sense as mind would be to the separate complexes of nervous matter, composing the brain (supposing that these separate complexes could somehow reason without being mind). Yet mind would only be these complexes totalised.

We are ourselves entirely included in the Absolute, for it is the totality of all existence. It is against this aspect of monism that human instinct, since Spinoza to the present time, has always revolted. Mind feels itself to be free. But this feeling might suggest a partial solution to the psychologist. It has been shown by psychological research that such feelings as the sense of existence itself are secondary derivatives, gradually built up and amplified during evolution through the comparatively fortuitous interaction of a physical frame with a varying physical environment. The psychological apprehension of the self, the innervation feeling of effort, and the perception in introspection of all the higher activities, are not original, but highly artificial, psychological constructions. We believe ourselves to be absolutely real, because our minds can work only by comparison, and we have not as yet anything more real with which to make a comparison. Are

If we assume a future existence, is the universe of mind and matter such that the Absolute could possibly be apprehended as God?

we then to say that our apprehension of ourselves is "mere appearance"? If so, the shadow of Kant's "noumenal self," with all its hopeless inconsistencies, will gather over us. The reason is thus apparent for our insistence in the earlier chapters upon reserving the term "mind," regarded as an actual entity, until it is capable of observing itself in introspection. It was then also stated that it first exists, as mind, in that gradual dawning of introspection, even though neural complexes, adequate to the production of introspection, may have already existed for a considerable period before some special external stimulus arouses them to effect the fully explicit mental totalisation of self-consciousness. It was also added, following Prof. Münsterberg, that the mental stream, which introspection displays, is taken objectively, and is of an atomic character, being observed under a form similar to our mode of apprehension of the material world, an analogy to this latter being necessarily formed by long habit of the mind. We do not thus apprehend ourselves as we actually are, for the stream of introspection, which psychologists investigate, is merely a broken objective series. The mere fact that we are not engaged in introspection during most of our life, even when acting teleologically, would suffice to prove the inadequacy of the mental series displayed to introspection, if it poses as fully representative of our entire selves. It is also worth recalling the observation in the last chapter, that any given mental manifestation, even when realised as self-conscious activity, is itself incomplete, for it necessarily involves only a part of the available mental content.

We do not observe mind in introspection as it actually is; as presented to psychological research it is incapable, like Nature, of posing as ultimate reality for metaphysical reasoning, which proves it to be self-contradictory, or for scientific observation, which is unfavourable to its separate existence. But we are far from postulating any unintelligible noumenal entity

as our real self. If we omit the conscious stream of introspection, all that remains for our actual observation is the material brain-process. But we are equally far from asserting that this is the real self. For metaphysicians have long ago shown that it is by an avowedly imperfect abstraction that the material world in its present form is taken as an entity, independent of mind. Mind involves matter, matter involves ether, ether conceived as ether again requires mind, and similarly in the endless closed circle. There remains therefore but one alternative. The "real" self of anything, as Mr. Bradley showed in detail, can be nothing save the Whole, that is, the Absolute. We think that this is quite compatible with Mr. Hobhouse's criticism of Mr. Bradley wherein he gives the self a true reality. But undoubtedly further investigation is needed, and perhaps the term "real" has gradually collected too many false associations, and has become a stumbling-block to progress. In the case of mind, its peculiar feature, as an aspect of the Absolute, is that it finally apprehends itself by its unique objectifying method, after a long evolutionary process of secondary psychological elaboration, which psychological research has lately elucidated. This apprehension of itself as mind, though inadequate to all metaphysical demands, yet forms the main reality of mind to itself.

It is thus suggested that our *separate "existence," so far as distinct from the Absolute, lies in nothing else than the very imperfection of our psychological apprehension of our own reality and that of the material world, which, together transcended, must ultimately be the Absolute of metaphysics.* By this imperfect apprehension of objects, material and mental, the nature of our activities also, so far as they are controlled by the will, is altered in character, for they are directed to objects thus imperfectly apprehended, and these activities are usually taken as the expression of our "true selves."

In support of this view we may bring the following

The only separate existence of mind, apart from the Absolute, consists in nothing but the necessary *imperfection* of its mode of apprehending itself, Nature, and the Absolute. The cosmic activities do not deal with this self-creating misapprehension, but for ourselves it actually comprises our existence.

Thus the Absolute includes all existence, yet for itself mind must always be a separate entity. But it always appears unsubstantial, even to itself, and this is because its ultimate reality is the Absolute.

additional consideration. There has always been the greatest vagueness on the subject of the "existence" as opposed to, or as combined with, the "activity" of mind. This difficulty has resulted in the preference now exhibited by psychologists for the safe phrase "psychophysical organism" instead of "mind" and "matter." Mind taken by itself seems to be a kind of "knowing" or "feeling" or "willing," loose in the air, attached to nothing tangible or intelligible. The probable reason for this peculiarity has been indicated in the main body of this volume. The struggle for existence in the animal stage has not made the definite apprehension of mind by itself, as an actual entity, necessary to survival, but on the other hand has moulded the activity of *implicit* mind in the grooves of the "sensuous forms," in which its more purely mental aspect cannot itself be afterwards localised or satisfactorily apprehended.

There seems no reason for assuming that the literal truth should be otherwise than is actually observed, since we are for the moment concerned not with the ultimate metaphysical question of the degree of reality of mind, but with its character, as mind in psychology, apart from the logical inconsistencies involved for metaphysics. Mind's ordinary existence does not consist in some stereotyped objective entity, as though it were a table, but it consists, taken alone, in *willing*, *knowing*, and *feeling*, and this, after all, is the only meaning that any one has ever attached to it. Mentality, however, involves more than this. If we recall the discussion of the "material image," we observe that mind's existence is also enriched by the apprehension of the material world, under a form of which scientific research into physical reality has no cognisance. This is involved in the claim of the physicist, that material reality lies in the atom and the molecule, not in the beauty of Nature. It was indeed remarked earlier, that in truth the first form produced by the psychical

was "external" to the body altogether, namely, the "mantle of totality," which mind sheds over atom and molecule, and which, taken by itself, is indeed a kind of compromise between existence and non-existence, and under which mind necessarily apprehends the scientific aggregate of material atoms.

Thus it seems that our separate mental existence, apart from the Absolute, consists firstly in our necessary apprehension of the material atoms of Nature under a totalised form, which their activities (as indicated by physicists) do not endorse, or at least disregard, if taken as essential; secondly, in our apprehension of our own mentality as the conscious stream in introspection, that is, under a form, which again is not adequate to the explanation of the activities displayed both by merely implicit mind (in the animal), and by ourselves, when not engaged in introspection. We all know how incompetent we are to prophesy what thought will next be uppermost, apart from any deliberate concentration of attention upon some subject. In both these cases, all the actual existence has remained included in the Absolute, but yet there is also a differentiation in the sense that mind does not adequately *apprehend* anything. The Absolute, including and transcending mind and matter, must intuit everything as it actually is, in some subjective manner inconceivable to us, but mind, owing to its evolutionary origin, must perceive, conceive, feel, and will, under necessarily imperfect "forms," and in this very imperfection of its objectifying apprehension lies its own "separate" existence. It must in fact be always totalising, yet it can never grasp all the details of the universe simultaneously, and thus achieve an adequate totalisation. Our existence, as separate from the Absolute, does not merely consist of our apprehension of ourselves as an objectified psychical stream, but also as consciously willing and making efforts. The doubt, which competent philosophers have often expressed, on intellectual grounds,

Illustration
from the doubts
of humanity as
to the sense in
which its ideals
are real.

as to whether our conscious free will really can be separated from the universal causative agencies of the world, is probably due to the ambiguous position of our will, as thus imperfectly apprehended. We may be in *part* "free," for our minds may totalise the lengthy molecular causation (exhibited even with their own brain activities) in one flash of consciousness, and the whole cosmic causation, if totalised (or transcended), might correspond to that which in our partial totalising is "teleological." We must not, however, describe the totalised cosmic activity as "free," for that term strictly arises by the contrast of our own activities with cosmic causation, imperfectly apprehended in its parts.

The everlasting attitude of humanity towards "ideals" is a splendid illustration of our view. Dr. Stout in *Personal Idealism* has pointed out that there is one thing at least, the conception of which is not self-contradictory, and thus escapes Mr. Bradley's universal condemnation. This is the ordinary "idea," shown in introspection. The criticism is justified, and it will be seen that with terminology, necessarily different owing to our evolutionary work, we are now employing the same conception. The idea, or a system of ideas, which compose an ideal, is real for man alone. Humanity has always wavered between idealism and realism, a great development of the one presently resulting in a revival of the other. The contrast is really between the ideas and ideals, which are merely man's own creation, yet in which his own "separate" reality consists, and his simultaneous apprehension of the fact that there is another type of cosmic reality, which will always be *active* in reference to him, and thus must be respected. It is not, however, true to say that familiar physical nature is the real, as opposed to the ideal. The material "real" is first the molecule and atom, and afterwards, when they are found to be self-contradictory, we are led to the Absolute. The true mode of expressing our position is found by introducing

that principle of comparison which is essential, as pointed out in our second chapter, to the activity of mind. The "Nature" of the poet is real compared with the "mental creations" of music, for instance, but is ideal contrasted with the molecule or atom.

This might be conjectured from the fact that Nature can inspire the poet, but such influence is hardly within the power of the "atomic skeleton." Thus humanity oscillates between the comparatively real and the comparatively ideal, the grosser members scoffing at the latter with occasional misgivings, the nobler portion pursuing it, also with misgivings. We could expect nothing else, being thus situated. Of course in certain respects all humanity is necessarily "ideal" (or at variance with ultimate reality), otherwise we should not be human, characterised by imperfect forms of apprehension. We, and even the animals, all "believe" in the ordinary perception of objects under the form which we described as "material image," and humanity also, in such conceptions as the roundness of the earth, which was once disbelieved. The test is presented to us when we become capable of forming a system of ideas about the universe, corresponding with the moral instinct, which cannot be proved to be applicable to reality. Reality for the popular mind practically means that which has the power of taking *immediate* effect upon our bodies.

It is thus possible to form a false ideal. All erroneous theories, all disproportionate moral codes, such as the more foolish aspects of military mediævalism, are of this character. There is thus falsity in a double sense, as is otherwise expressed by Mr. Bradley when he remarks that there is necessarily error, but there need not be illusion. A true ideal, moral, intellectual, or æsthetic, cannot be adequate, but merely applicable, *to reality*; were it the former, it would not be an ideal formed by mind, but it is all that mind, by its essentially imperfect nature, can produce, and, if "true,"

Comparative
ideality and
reality illus-
trated from
musical creation
and the appre-
hension of
Nature.

it is always effective sooner or later when applied to the activities observed by us in reality. Humanity has never known whether to call its ideals "real" or otherwise, for if it decides to ignore them altogether as "unpractical" or merely "sentimental," presently it is gradually felt that somehow something has gone wrong. We may compare Matthew Arnold, personifying the soul-weary East two thousand years ago, as gazing in deep disdain on the "futile Roman tempest," whose legions thundered past, and waiting till

On that hard Pagan world disgust
And secret loathing fell.

And again—

No easier nor no quicker passed
The impracticable hours.

Nature of false
ideals. Illus-
tration from
one-sided
theories, novels,
etc.

A false ideal of any kind is only possible because mind is a combining totalising principle, and yet cannot totalise the whole universe; we could not create material, which is unreal, for such an achievement would not be within our powers of conception, but it is possible to combine our variously apprehended relations and entities in the wrong proportion for some given purpose. Thus a theory of the universe is erroneous in degree if, while purporting to give a description of the Whole, it tacitly fails to take account of some of the parts. Such is materialism, in which the reasoning sometimes proceeds as though there were no such study as the science of psychology. Novels, in treating of love, and extravagant military codes on points of honour, such as duelling, often do real harm by elevating to the rank of the true universal instincts those impulses which are intrinsically of partial application, indirectly, of course, at the expense of the former. In consequence, either unnecessary trouble is caused, or, by a reaction, a sordid view of life results in the minds of those who were naturally fitted to benefit by the reasonable idealisation of these impulses. Military

honour in relation to civilians, as officially fostered in Germany, apparently makes some lives well-nigh intolerable. Evil, again, was treated by Voltaire as ridiculous, that is, disproportionate, and this is certainly its true aspect from the purely intellectual standpoint, though the moral seriousness of its effects makes such an attitude dangerous. At the same time we cannot agree with the religious apologists, such as Illingworth, that moral evil is a greater *intellectual* problem than pain. Its possibility seems to follow necessarily from a biological standpoint when we consider man as a being so constructed as to be forced to choose between his colliding animal and ideal instincts, since the former are still effective after the latter have become explicit. Pain, on the other hand, the intensified form of the experience of resistance or physical mutilation, is the original concomitant of mind, including the animal world, and our attention will therefore be presently directed to this quarter.

It seldom proves worth while to divide humanity into types, such as the sanguine, the melancholic, and the like, probably because after all it is composed of real individualities. But we may perhaps illustrate our position from the following remarks, which give some approximation to such a division. It is often realised that there is a type of person who is "too clever," and his work, if ever executed at all, is usually marked by evident disinclination to undertake the trouble of a thorough and lengthy inquiry into the facts. The theory which is "too clever to be true," the music which is "too elaborate to answer" are well-known phenomena of a highly developed civilisation. In such a case we may regard the author as possessing more individuality, separate from the Absolute, than the ordinary person, but as unwilling to make the effort of co-ordinating his ideas with observed activities, and thus that which might have been originality becomes eccentricity, for

Illustration of the relation of mind to the Absolute from contrast of national characters.

it does not correspond with any form of reality. On the other hand we have the type, well represented perhaps by the average "English gentleman" living with his family in the country. He distrusts the new-fangled, is himself thoroughly trustworthy, instinctively displays good feeling, when occasion requires, and in an unobtrusive undeveloped way thoroughly enjoys and appreciates his sylvan surroundings. The artist or the poet, on the other hand, whose intellectual power can make explicit their beauties, is more likely to be unhappy in the act of doing so, if only on account of the inevitable restlessness induced by a more active mind and deeper insight. It has been rightly said that the English have an aptitude for instinctively selecting what is practicable for their purpose from the experiments of other nations and unconsciously discarding the remainder. The typical English men and women do not develop an individuality extensive in range of ideas and self-created interests; they do not, as it were, "stray" far from the Absolute, but their excellence lies in their instinct for a good choice out of the material which in the natural run of surrounding circumstances is available for composing their individuality. They are therefore generally at an advantage, especially in conduct, compared with those whose greater intellectual initiative exposes them to greater errors. In this connection we may recall the statement in the chapter on the Ideal Instincts, that it is all-important with reference to their validity that the ideal instincts are observed by anthropologists to be active before they are consciously realised as actual. They thus take their place in the cosmic scheme as part of the properties of mind necessarily evolving, as it differentiates itself from the Absolute. If the instincts of religion and morality could, so to speak, have been deliberately "*invented*" by any one, they would be worth nothing, but such invention is probably impossible. Yet the equally necessary *expression* of the various ideals of humanity is only made explicitly loftier

by those who, through continual downfalls, experiment till they succeed in adjusting themselves to a wider reality, the greatness of which they have been long instinctively feeling. Thus the terrible experiment of the French Revolution at length brought to life juster views of the rights of men throughout all Europe, yet there was never a better example of an ideal system more at variance with practical reality than those of Rousseau or Robespierre. The first effect of the awakening of virile and relentless thinking is often to impair instinctive good feeling and conduct, which can then be only partly replaced by later artificial efforts of introspective mind. Hence we find such men as Rousseau or Carlyle attacked on the ground of their impracticability in private and social life.

Similarly, it is notorious that too prolonged introspection, if indulged in for the sake of dwelling on the individual's own personality, leads to an undesirable egotism and self-consciousness in the bad sense, which has been known almost to result in incapacity for entering society. The inferior type of novel often exemplifies this fact, yet in itself indicates the activity of a being capable of a widening outlook. But introspection, undertaken from an ideal motive for the sake of advancing psychological science, or with a view to moral discipline, is far less pernicious in its results, though it is indeed likely to impair that "clear aspect of a good conscience" which, in reality, is as often dependent on an unconscious self-deception as upon actual innocence.

If these illustrations have made clear our conception of the nature of the reality of man, apart from the all-inclusive Absolute, it is now practicable to make an effort to determine the possibility of the existence of a God for humanity. Actual vision, it has been said, does not give us the material reality, such as it is, of the atom and the molecule. Introspection also does not give us the actual reality, such as it is, of our own

Our sensuous mode of apprehension does not give us the scientific truth about Nature, namely, the atomic skeleton of physics.

minds. Our very separate existence consists in its failure to do so. How, then, can we expect to apprehend the Absolute under any form in its ultimate reality? We do not propose to make suggestions as to the possible details of a hypothetical partial apprehension of the Absolute after death. But this much it seems that we can say with confidence: whatever might replace or combine vision and introspection, our two present modes of direct apprehension must still be incapable of intuiting reality, as it actually is, if mind is to retain the intrinsic qualities of mind, for this direct intuition is only possible to the all-inclusive Absolute. If the religious consciousness then finds its object, this apprehension would still be on the same principle as our present vision and introspection. But it would "realise" the ideal in the sense in which our present vision gives us a "Nature," with which we are satisfied, as being real, but which men of science yet declare is not essentially real, reserving that title for atoms and molecules.

Similarly, we naturally regard mind vaguely, as active being of some type, but for scientific psychology, which must strictly define its subject-matter, mind is the objectified atomic stream of mental events.

But no man desires to *see* Nature, as an atomic skeleton, nor to apprehend mind as some unintelligible reality ultimately involving the Absolute. Similarly, the religious consciousness does not desire to find that intellectual creation, the Absolute, but God. Mr. Bradley has said that God could only be an aspect of the Absolute, and this is a perfectly true account intellectually, but it may be added that this "aspect" is all that we can possibly intuit or desire. By intuition we refer to anything *directly* seen, visualised in introspection or otherwise apprehended, but not conceived. When we wish to replace Nature by the colourless and hence unimaginable molecules, and our friends, as we intuit them, by an aspect of the Absolute, which conceptual reasoning on their existence logically involves, then we shall wish to intuit the Absolute instead of God.

Our nature is such that the pure intellect can penetrate further than either our sensuous, introspective,

or religious intuition can attain or desire, but its productions are always mere abstract conceptions, for which we care nothing, but which yet are plainly applicable to the explanation of the *activities* of the objects which we are able to regard with feelings. Such is the relation of God to the Absolute. The Absolute is the cold, intellectual *conception*, which must logically be valid, and whose principle explains the modes of the observed activities and changes in the universe. But God could only be this ultimate reality, the Whole or the Absolute, in the sole form possible to the human inadequate *intuition* of any kind, sensuous, introspective, or religious, but at present only vaguely apprehended. For by the long habit of evolution we are bound down to that sensuous intuition of which the essence is its apprehension in terms of a plurality of finite objects within the infinite or the incomplete. God would bear the same relation to the Absolute as the glory of Nature bears to the scientific skeleton of atoms and molecules, with this difference, irrelevant, however, for our present purpose, that the latter, taken abstractly from mind, are not ultimately real for the theory of existence as a whole. Thus our salvation lies partly in our very imperfection. As mental, we must exhibit totalising principles, yet, as we never can include within our substance the whole universe, our intuitional totalising is never complete; men of science must repudiate it, and dissect into atoms, in order to understand, those very activities and changes of Nature and mind which are apprehended, as such, only because we cannot adequately totalise existence in our apprehension. Yet if we did not totalise at all, we should not exist as self-conscious beings for ourselves, as shown in the chapter on ether, matter, and mind, nor know the beauty of Nature, or the nobility of mind, or the intuition of God.

We stated at the beginning of this chapter that the existence of the Absolute could be proved, but not that of God. For we have perhaps shown that it is possible

Thus also we intuit as God, where pure reason conceives the Absolute. But in all three cases we *prefer* that to which our nature *as a whole* (that is, as exhibiting *any* direct intuitional activity) is necessarily confined. The human mind, as a whole, is that which inevitably effects an inadequate totalisation. Science must correct this by its atomic methods, yet not an atomic reduction, but a full totalisation would be the ultimate truth.

The validity of the "existence of God" would mean that the universe of mind and matter is such that, after the removal of the sensuous forms, by death, it could be intuited by our particular mode of apprehension in a personal relation.

that the universe should theoretically appear to us after death under a form which would correspond to the present personal relation (since previous investigation into the nature of the "forms" of the human mind indicated that our possible modes of forming the personal relation would then, at least, admit of thus including the universe). But no proof was offered that its nature is actually such that it would confront us in this guise. It is necessary, therefore, to consider this final problem, which avowedly now admits only of a probable solution. If we ever have the opportunity of experiencing a more definite intuition of the Absolute than is afforded by the present religious consciousness, it is certain that it can only be so intuited by us under a form which would bear the same relation to its ultimate reality, in one respect, that visible Nature bears to the crowd of atoms. For though the sensuous forms may be dropped, the essential partiality of mind to its own interests would remain. For, as we showed in the chapter on Instincts, these interests result ultimately from our own existence as parts, and not as the whole of the universe. This imperfect aspect might be the ultimate Truth, Reality, or Object of reverence for the direct intuitional needs and instincts of such minds as ours, and we should rightly distinguish it from the Absolute as God. The term "aspect" must not seem to filch away "reality" from this Object, just as the splendours of visible Nature do not lose their hold upon us when physicists inform us that physical "reality" is intellectually a bare whirl of atoms and molecules. We merely reply that the "poetic truth" of visible Nature is sufficient for us. And it is certain that we cannot intuit the Absolute in its ultimate reality, for there could be no such direct intuition for us. Such an achievement would first require that we should *subjectively* realise ourselves, and thus apprehend ourselves in introspection in some utterly inconceivable

way as not "externalised" or objectified at all. For that process is essential, as Professor Münsterberg clearly brought out, even to our apprehension of our own mental stream displayed to introspection. If the Absolute is all existence totalised, and by its mental aspect (for it also includes mind) directly intuiting itself *subjectively* as such, we should thus be led to the absurd result that we, who are merely parts of the universe, and who for this reason necessarily objectify in all our apprehensions, should yet be intuiting the Whole subjectively on a principle by which we cannot even intuit our own minds in introspection. We may perhaps dwell further on the meaning and application of the term "intuite." The Absolute (which includes mind as well as matter) must, being the Whole with nothing external to it, subjectively intuit itself directly in some unimaginable manner. Of this the only possible knowledge for our minds is that it cannot involve "externalising" or objectifying, the absolute essential of the human mind, even when introspective, owing to its evolutionary origin.

But we have also been speaking of our own minds intuiting entities, as opposed to forming those conceptions of their combinations which are merely applicable to reality. Such "objective" intuition, for example, might either be the ordinary intuition of physical objects in vision, or of our own minds in introspection, or of God before or after death. Intuition is always direct and immediate, though in the last case vague, and involves marked feeling-tone and may not require conscious effort. Practically the test of our term "intuition," as opposed to conception, would be as follows: Does the object as apprehended appeal to any instinct which is not merely the intellectual? (Apprehension is our widest term, including intuition and conception.) God, in fact, would be the Absolute in an objectifiable form for our nature, when intuiting as a whole, though we might also in some

Contrast of the objective intuition of mind with the logically necessary subjective self-intuition of the Absolute.

degree *feel* ourselves one with Him (as is asserted to be characteristic of religious experiences), since in His own reality He is the all-inclusive Absolute, including us. On the other hand, we may, indeed, form a conception of the Absolute, which would be valid, as far as it goes, but we cannot intuit it at all.

Mind, then, as shown in the chapter on Mind in Man, is essentially the externaliser or objectifier. In primitive "pure feeling" it is nearest to subjective intuition of itself, such as the Absolute can experience, but psychological research has shown that mere feeling, experienced alone, is not really a fact of consciousness. Thus mind must apprehend Nature, itself, and the Absolute alike as "external," though the feeling-tone, invariably associated with all apprehension, might also add a sense of union or kinship. It must be noted that this externalising is not necessarily bound up with the *special* characteristics of the "sensuous forms," as is shown by the case of introspection. For therein the psychical objects alone are apprehended in the conscious stream, and there is no exact parallel to the vaguely apprehended surroundings of a physical object which has attracted attention.

Thus God would be the Absolute, partly in an objectifiable form, for our particular mode of intuition. Illustration from the testimony of the religious feeling of union with God in some sense. Our logical inclusion in the Absolute, as opposed to our objective intuition of God, is represented in us by this "feeling"

There is nothing even partly explicit in the objectification of introspective intuition to correspond with such infinite media as the "sky," in the otherwise parallel case of the ordinary sensuous vision, which necessarily involves a finite plurality in an infinite medium, as shown in the last chapter. It is thus perhaps obvious that we are not self-contradictory in speaking of the *externalised* stream of *introspection*, though in that connection "objectified" is the better term. In so far, however, as we lay stress upon the feeling-tone, which according to psychological research is associated in some degree both with intuition of all types and even with conception, we approximate to subjective apprehension of ourselves. Thus also in the "feeling" aspect of the religious consciousness,

which testifies to some union with God (who to this extent, therefore, is not externalised or objectified), our actual inclusion in the Absolute is represented to ourselves. But as soon as we try to observe feeling directly in introspection, we transform it into a partly objectified mental event.

But the question now arises: Can this Object display the moral relation, as a loving Person, towards us, according to religious creeds, even if on our side it has been shown that it is possible that we might objectively intuit such a Person after death in a less vague form than is at present experienced? This is what we really mean when we ask: Is there a God? We believe, in fact, that, following the principle of our second chapter (that mind attempts to apprehend just according to its own construction), we necessarily attempt to apprehend the universe, as personal, upon becoming consciously personal ourselves. Similarly, the savage imagines a person behind all that he cannot understand. The question is whether the attempt can be successful?

We must consider the universe separately in its different parts. The first problem will be concerned with the ethereal-material system. In this connection it may be significant that some physicists have given reason for anticipating the possibility of the solution of the material world in ether. Others, however, believe that a constructive process is also continuously at work. This view, however, whether destined to realisation or not, is scarcely relevant to our purpose. Some form of existence, ether qualified in some manner, would presumably replace matter for the apprehension of any being who was not the Absolute, and we have no means of knowing whether this new form of existence, resulting from the cessation of the differentiation of matter from ether, would be capable of taking part in the production of a universe, objectifiable by such minds as ours, under a personal form.

aspect of the religious consciousness. In feeling we are nearest to subjective intuition, but objective intuition and feeling are always fused in us.

We must consider the universe in its parts in order to see whether it is possible that ultimately the Absolute may be intuited by us as God, that is, as a Being satisfying the religious intuition.

Matter, according to some physicians, may be resolved ultimately into ether, but if it is not, its relation to ether would be differently totalised by us after death, if we survive.

But at least we could not be confronted with the present mechanical and impersonal activities of the material world. For the form of that activity, as pointed out earlier, essentially depends upon our present partial and sensuous apprehension of the ethereal-material system, as separate parts in an infinite, that is, an incomplete, whole. We talk of "Nature," but in fact deal with a multitude of entities, for us separate, such as sun, stars, sea, blood, bacteria, and the like, which alone take effect upon our bodies for ordinary purposes, and hence on all but scientific minds.

Our conclusion, then, in this respect may be thus stated. Though the parts of Nature, as such, could never take a share in producing a Person, it is possible that they will cease, according to certain physicists, to be such parts, even for such apprehension as ours. Doubtless ether, however modified, would still, taken alone, be mechanical in character, but it is not certain that after death the forms of our minds would necessitate such *separated* apprehension of that aspect of the universe, which we at present stereotype as ethereal-material. It remains, therefore, possible, but unproved, that whatever would replace Nature, as we now know it, could take part in presenting the universe in a personal relation to ourselves.

We have now to consider that which is for us the mental aspect of the world, and which with the ethereal-material system makes up the Absolute, or our universe. This must also take part in the possible production of a Person, who would be for us the objectifiable aspect of the Absolute, the latter in its own subjectively intuited reality including all existence. We are thus led to the conclusion that though we cannot, of course, alter the *transcending* existence of the Absolute, as a whole, which would be God's own reality, we must necessarily, as minds included in the Absolute, take a share in the production of the only form under which the Absolute can be revealed to us as God, because

we are ourselves part of the Absolute. We are thus curiously in superficial agreement with types of thinking, such as that of Grant Allen in *The Evolution of the Idea of God*, which, for practical purposes, might be expressed as "the Evolution of God." It seems to follow inevitably that humanity can only create its own God by the development of its own higher nature, but the divergence between the views thus compared lies in our further observation that God also has His own subjectively-intuiting Reality in that, which is for us a mere conception of the intellect, the Absolute. God must be at least in part objectively intuited by us (though the religious consciousness in its emotional aspect also testifies to a sense of union), if He is to be the object of reverence to our entire nature. Yet in His own Reality He must actually include our own being ; hence it appears that in proportion as we make our own being nobler, the greater becomes the possibility of His objectively appearing in a personal relation to our direct intuition when we are free of the sensuous "forms." The latter necessarily deal with Nature in its parts, and at present mainly engross our intuitional powers, except in the case of those with great capacities for religious intuition. At the same time we are forced to assume that the material-ethereal portion of the universe, which in its parts we at present see active according to the mechanical laws of nature, can also take a share, when transformed (either by the change of our own modes of apprehension, or by alterations in its own essential nature), in producing an objectifiable Person for our religious intuition. We cannot prove that this particular change concerning the physical world will actually occur, and also we cannot prove that on the mental side humanity as a whole will rise to its possible destiny ; hence we cannot actually prove that humanity will ever be able to intuit a God more clearly.

One aspect of the problem of the "freedom" of the will is involved in this view. We can only be "free"

because we can make such *erroneous* apprehensions, as that of the "material image," and, later, of ideas and ideals in introspection, and model our conduct accordingly.

Connection
with the prob-
lem of free-
will.

We are thus free just because we do not apprehend reality in its ultimate actuality, but form mere "ideals," which are yet the whole truth for our minds by their intrinsic nature. Otherwise "freedom" would certainly be impossible, for there would be only two alternatives, the time-transcending Absolute and the time-series of its parts, which men of science rightly insist can only be "predetermined." The *ultimate* reality, both of ourselves and of the physical world, namely, the Absolute, is neither free nor determined; for such terms and conceptions, as causation, can only apply to a time-series, such as we apprehend. The Reality of God is the Absolute, taken as the real Whole transcending and including both space and time, whose special appearance to us Kant long ago showed to be due to the "forms" of the human mind. The ultimate reality of mind and matter involves the Absolute, which they compose, but are apprehended by us under imperfect conditions, so as to necessitate such connecting relations as space and time, which on examination prove self-contradictory. For we do not intuit these parts, as parts of the Absolute, but as self-existent mind and matter. Similarly, we cannot, and do not desire, to intuit the Absolute, as it is in its own subjectively intuiting reality, but we may hope to intuit it as God, this possibility partly depending on our own efforts. Now it is apparent that wills may be free, because we can and must aim at realising some system of *ideas*, good or bad. Only these ideas could possibly be external to the Absolute, just because they are not themselves "existence," but the result of the imperfect form of mind's apprehension of itself. Mind by its essential nature objectifies itself in an incomplete manner, and yet for that very reason provides an object suitable for the exercise of its own unique activity. We

are thus in agreement with Kant, except that we avoid the thing-in-itself and the noumenal self. Determinism applies to Nature, freedom to mind, and its supreme exercise might help to make a God possible for human intuition. This would be the totalisation transcending both the present "material image," under which form we know Nature, and the ideas and ideals of introspection, by which we know ourselves. The Absolute simply is; neither determinism nor freedom could conceivably have a meaning as applied to the Whole.

When it is said that we can change our own existence by pursuing ideals, we mean that by acting according to ideals we can make some ideal more characteristic of those imperfect forms of our minds which for ourselves must always compose our own existence. We can substitute such trends of ideas for the fortuitous content, which is contributed by the mere juxtaposition of events in space and time. For the term "forms of the mind" is as applicable to "type of character" as to mode of apprehension of the spatial world. It always refers to our mode of grouping any mental content. Having ideals means combining the material for ideas according to certain patterns determined by the "ideal instincts." Self-conscious mind is the Absolute in one aspect, intuiting itself objectively and erroneously, as being *merely* that aspect, yet it is also conceptually capable of understanding by reason that separate existence of such a type is self-contradictory, if taken as final, a conclusion supported by the physiological necessity of afferent to efferent activity. Our ultimate being is necessarily unchangeable, for it is the Absolute, but the form, according to which we dispose ourselves in introspection and apprehension of the material image, may be altered, and this form is all that we mean by "knowing, feeling, and willing"; in this alone mind, that is, our existence as separate from the Absolute, consists. Even action resulting from will, which might be regarded as the expression of our ultimate reality,

since it does not need introspection, is only in part of this character. For we must will and act in reference to some object, and this object, whether part of the "material image" or of our own minds, was only apprehended in obedience to the imperfect forms of the mind. Thus it finally appears that we are in part free, in part predetermined, but it is our freedom which is unintelligible, though instinctively experienced, because it involves our ill-understood relation to the Absolute. For we certainly cannot change ourselves, taken as intellectually conceived aspects of the Absolute, and, in proportion as action is unpremeditated and effortless, it is merely on a level with mechanical activity. We have pointed out that the separate existence, as opposed to the activity of "mind," is a misapprehension; mind for introspection simply means "knowing, feeling, and willing," and these, like the material world, can form objects inviting action; yet again, the very activity must be partly determined by previous evolution. Thus we can to some degree alter these objects as apprehended, and gradually our whole mode of apprehension, because this is not under any circumstances ultimate reality, but yet is everything which we either know as mind or can regard with the least affection, by the intrinsic build of our being. We may give a concrete example. A man enters a restaurant, partly determined by the sense of hunger which has been elaborated in *past* evolution, and which might be satisfied without any looking to the future, but partly also by a report that a novel dish will be served. The latter motive is directed upon a particular combination of ideas, which, as thus *combined*, refer wholly to the *future*, unlike physical causation. Such is the nature of our freedom. This instance is selected to illustrate further that there is a truer division between teleological and mechanical activity than between mind and matter. For the sense of hunger, which acts like physical causation, is itself a "mental" phenomenon. At the same time

even this break is not absolute, for there are mental phenomena in which both types of activity are inextricably blended.

It will be observed how completely our account agrees with the invariable testimony of the highest development of the religious consciousness, which always claims that it is already "one with God," and yet obviously none of us are such in every sense. Such a feeling naturally results from the fact that we are logically part of the Absolute, and the subjectively-intuiting Absolute is the possible God in His own Reality. But the Absolute can only become a God to us, or must be "created" as God by us, partly through our efforts towards making ideals wholly characteristic of ourselves (so far as we can intuit our own existence). By these alone our minds can take their share in producing for their own apprehension a universe which they can satisfactorily objectify as capable of displaying a moral or personal relation towards us. The Absolute remains unchanged, whatever we do, just as the purposes of minds, which transcend their own component brain activities, are not altered necessarily by some changes in those activities. But it remains for us to evolve ourselves until we are such that, as far as *our* contribution to the result is concerned, the Absolute, instead of appearing in its parts as an infinite, that is incomplete, Nature, an unlocalised mental series for introspection, and a vague object of the religious instinct, should be intuited in some clearer sense as a Person. This Person, as such, would intellectually be worth no more than the reality of the "material image," which gives us the splendour of Nature, compared to the reality of the atoms and molecules. Yet we should at once agree that the former is all that we desire, and should be horrified if we were forced to make an exchange. Faith, as observed earlier, would merely be *antedating* its object, for there is not a clearly apprehended God as yet, but only the all-inclusive

Faith, if finally justified, would only have antedated its object. Humanity in one sense must create God, though His own Reality, whether thus apprehended in an objectified form or not, lies in the Absolute.

Absolute, to whom time, such as ours, does not apply. But the Absolute may be such (as far as our religious and moral instincts, which are part of it, can guarantee) that it is open to us to make ourselves capable, by changing ourselves, of intuiting the Absolute as God. That man should change his nature and develop his higher capacities *to a certain point* is apparently a necessary result merely of his being part of the processes, which, transcended as a whole, are the Absolute. For ordinary interaction of human relations forces upon all a certain degree of morality, that of the "man of the world." Most of our actions result from our double nature as parts of the Absolute and as self-consciously and erroneously intuiting ourselves, as separate beings, capable of forming mere ideas, with reference to which we can act. It would be literally true that supreme happiness might consist in the eternal progressive realisation of God, taking the latter in a far wider sense than is customary. For on our view the greater our separate efforts, the more there actually is to realise, as far as mind's apprehension is concerned.

Another way of expressing our position would be the following. God could only exist for mind; if we could suppose the ethereal-material system in some way able to apprehend, without being mind, it could only deal with the Absolute. We defined the meaning of a "person" as the only true finite organisation, since "Nature" stretches away in indefinite processes, any division of which is in reality arbitrary. Hence it would appear that our self-conscious organisms, being physically continuous with these processes, yet also self-contained or finite in their teleological aspect, must apprehend the "external world" in a correspondingly ambiguous manner. In proportion as we dwell on our finitude, which is the necessary complement of our self-conscious mentality, the external world tends to appear personal also—that is, as God. In our second chapter we tried to show that our minds intrinsically attempt

to apprehend other things under the form of which they are themselves the expression. And *for* us, or in *contraposition* to our consciousness of self in the higher sense, it may well be that the universe is capable of being a Person, and may presently be more clearly apprehended thus; in proportion as we become more "mental" implicitly or explicitly, the universe becomes more personal. We are well aware that *purely* intellectual greatness tends sometimes towards the mere Absolute, apparently contradicting our view. This is certainly, however, not the case with great men of practical action, and we doubt whether it is at bottom true of the former in the moments when they are living most deeply. They often have to give opinions when newly affected by special intellectual considerations or in hours of comparative superficiality. The Absolute, we repeat, is undoubtedly the ultimate truth for the intellect but not for the human consciousness taken as the organised whole of intuition conception and emotion, which prompts its ordinary activities.

Since we are part of the Absolute, and we suffer, suffering must be represented in the Absolute, though not of course in the psychological terms of the human being observing himself in introspection. It must be literally true that the possible God in His own Reality bears in some sense the suffering of the whole world, because that Reality is the all-inclusive Absolute. There is also the possibility that humanity will not fulfil its higher destiny. In that case the Absolute remains, but the suffering, both in the parts as human and also of the Whole, would seem to fail in that which is to us its apparent object. For, as was pointed out, mind first becomes real mind mainly by pain and effort, which must cause the original beginnings of unconscious introspection, and it is by this means that the creation both of man and of God, as contrasted with the undifferentiated Absolute, appears to have occurred. For there must

Final statement.

The pain of all individuals must be represented in the subjective intuition of the Absolute.

indeed have been some quality in the Absolute to correspond with, or actually be, potential mind in "pre-mental times." But it did not involve separate existence in any sense, such as mind now displays in its introspection of itself, an existence consisting in the fact that it apprehends realities by direct sensations, perceptions, or introspection, namely, either as the "material image," the conscious stream of introspection, and the vague Object of the religious intuition.

We have thus stated our position with reference to the clearer apprehension of the Absolute as God. It is a possible event, and it partly depends on our own efforts, but at all events it lies in the future, whereas the Absolute transcends time. The title of "the Great First Cause" is not a happy one, if taken seriously. Cause and effect imply a temporal series, and are therefore included and transcended by the Absolute, while God, abstracted as separated from the Absolute, is in the future, and certainly is no more a cosmic cause than our "material image." The scientific conception of the inevitable necessity of the sequences of Nature, as such, is much less objectionable as applied to the existence of the Absolute and its included processes, though still quite inadequate. The Absolute is that which is logically inevitable, but, apprehended as God, it depends upon the existence of ourselves, though His own Reality could only be the Absolute. The survival of such minds as ours is necessary to His existence, taken as separated in any sense from the Absolute, and we shall therefore consider the evidence bearing upon this problem. We have not attempted to prove the "existence" of God or any view as to our own immortality, but we suggest that the monistic intellectual conception of the universe does not exclude even the probability of the ultimate validity both of God and immortality for ourselves. This monism seems to be supported both by the scientific evidence of gravitation and of the physiological necessity of matter to mental

existence, and by the reasoning of previous metaphysical writers based upon the analysis of each type of fact taken separately.

The actual relation of man to the Absolute would seem to imply that the separate existence of beings, as capable of apprehending and appreciating the world and themselves, was only achieved at the cost of some pain in each individual case. The relation of existence to pain and the sense of resistance will shortly be discussed. This pain must be experienced *in its sum total* by the Absolute, which logically includes all beings. Our pain, as we experience it, is always in some degree objectified by us, like everything which contributes to the experiences of human minds, and hence pain could not be felt, *as such*, by the Absolute. But this consideration does not render it less an attribute of the totality of existence, and indeed it may be experienced by the Absolute in all its bearings (whereas irrelevant circumstances affect the total state of mind of human beings). Such experience would be in a transcended form, which, though logically necessary, is not capable of being pictured in the human imagination. Pain must have been at once the actual creation of mind, realising itself as separate, by forcing the dawn of introspection and also the simultaneous beginning of the possibility of the apprehension of the Absolute by man as God. The completion of this latter process would also seem to require the co-operation of the human mind, and in consequence there is the possibility that in some cases the mighty purpose, if there is any truth in our reasoning, may be wrecked by ourselves, so far as our own powers of apprehension are concerned.

Without resorting to the more vindictive fancies of the Dark Ages, it would seem, according to this view, that the instinct urging the supreme importance of the present life is not necessarily misplaced. The particular conditions, namely, the contrast of biological and ideal instincts, under which the capacity for *increased* effort

Psychologically the sense of existence first appears in the experience of resistance, which, in an intensified form, is pain.

is now acquired, might be absent in a hypothetical future existence, and we have no guarantee that they would be replaced by some equally effective substitute. The degree of capacity for apprehending the Absolute as God may, therefore, be finally fixed by the degree of effort at present displayed in proportion to the character, favourable or otherwise, of the environment. If there is also such a being as the man, who deliberately follows an evil ideal, his position could hardly be desirable in an assumed future state. For his present happiness is made possible by the number of neutral interests and circumstances, depending indirectly on the presence of the biological instincts which mainly compose our life. With these absent, there would be a great relative change for the worse.

Intellectual idealism has often disregarded the problems of pain, but pain on our view appears as the most important event in the universe. For it was the necessary condition of the possible differentiation of the Absolute as an objectified God and self-conscious minds.

It has often been objected to the intellectual idealism of metaphysics, and not without reason, that it fails to take sufficient account of the reality of the pain and evil in the world. It explains the universe as perceived and conceived, but not as felt. In the present attempt to extend that type of thought, pain gives the keynote of the truth concerning the universe. It may well be that the proud words of Spinoza, "*non flere, non indignari, sed intelligere*," led to a weakness in his development of philosophical monism. Psychologists have shown that the actual experience of pain depends more upon the sensitive temperament of the individual mind than upon the external conditions amongst which it exists. We cannot, therefore, be certain from our observation of individuals as to the degree of endurance really exhibited by those who claim that the stoical attitude of contempt of pain is characteristic of the highest minds, who might thus, perhaps, be the Red Indians. In the intellectual instinct indeed and its object, the Absolute abstractly conceived, there can be no place for pain, as such, but if we take just account of the persistence of the claims of the religious and other ideal instincts as being observed psychical facts, it

would seem that the essence of the universe, both in its parts and as a whole, is either synonymous with the history and purpose of the experience of pain, or has no meaning for human beings at all. Such a view may not upon reflection appear unduly anthropomorphic.

For psychologically the animal or the child first comes to know itself in the vaguest sense by the experience of resistance, usually that of the chest to the wandering fingers, an experience which sooner or later is intensified in the apprehension of pain. The existence of God, as the Absolute possibly transformed for our minds, partly through their realisation of themselves in mental pain, would thus be due to the same cause. For the idea of God arises through the sense of failure or helplessness mainly in face of natural forces, and is usually strengthened by age and experience. We thus assign to pain the most important position in the universe, as being the possible creator both of self-conscious humanity and of God apprehended as differentiated from the Absolute. It would appear that the supreme destiny of humanity is, in a sense, to create God, though his own reality at the same time lies in the unalterable Absolute. If such a view seem extravagant or unscientifically anthropomorphic, we can only commend for reflection the fact that the experience of resistance, the milder form of pain, is, as a matter of psychology, the sole and necessary origin of our entire mental existence, and hence of all the worlds of science, art, religion, and ordinary life.

It may be observed that though the resistance of other parts of the universe to ourselves, and afterwards the experience of pain, is always both the source and intensifying agent in the apprehension of ourselves as existing, it is not necessary that all humanity should undergo pain in a high degree. Heredity ensures continuation of that capacity for realising ourselves which was first developed in the sense of pain. That type of

nervous system thus acquired becomes permanent. We are not in this remark necessarily identifying ourselves with the particular biological theory of the inheritance of acquired characteristics. The process known as "organic selection" suffices for our purpose, since it is probable that pain is to a certain extent useful in the struggle for existence, and would hence be favoured by natural selection whenever the capacity for it occurs in the individual. Life would be intolerable if all humanity were continually engaged in violent effort or in suffering pain. But it is equally obvious that these conditions afford the only means by which a deeper degree of existence is attained, if only indirectly, on behalf of the whole community through the communication of the unique experiences of individuals in various ways such as are provided by poetry and religious writings.

Thus creation, as "caused" by any agency, can have no meaning for us, but it is possible to observe through physics and psychology the actual mode of its procedure.

It would seem probable that only by the experience of resistance could anything more than the "self-consciousness" of the Absolute, whatever that may be, exist in the universe, and if ordinary resistance is to be felt by us we must also run the risk, under some circumstances, of the keener experience of pain, "physical" or "mental." Otherwise there could be neither humanity nor God, but merely the undifferentiated Absolute. As matters stand, there was no instance of creation out of nothing, since our conscious existence, as separate from the Absolute, consists not in the formation of some new "substance," but simply in the elaboration of a new relation between certain parts of the universe as totalised with others relatively untotaled. This is primarily experienced by us, according to psychology, in the sense of the "resistance" of matter, but later in the familiar forms of willing, feeling, and knowing, with reference to objects recognised as alien and sometimes as hostile. The actual "cause" of "creation" or the differentiation of ourselves from the Absolute is, of course, utterly beyond

our ken, being intrinsic in the positive details of the totalised nature of the Absolute.

In thus concluding a chapter which attempts to discuss the highest subject which can occupy the mind of man, we wish to lay stress upon the fact that we have no desire to present a new view of God as though it were the absolute truth. Men only agree completely upon that to which they are indifferent, such as the roundness of the earth ; it is neither right nor possible that they should all experience or conceive God in the same manner. The simple Northern barbarians who received the gospel of peace from Roman missionaries fought passionately for the new creed, while their conversation showed that they pictured Christ and His apostles as a mighty Knight with His twelve paladins, born to smite the Pharisee hip and thigh. They were, in reality, much further removed from the thoughts and feelings of a modern educated Anglican than are the views of the present work. For it is only the incapacity and indifference of the unintellectual mind as to the expression of its private feelings which makes it rest content with conventional formulas, especially if the latter are in a noble strain. The meekest maiden who may seem to follow her spiritual pastor in every expressed detail, and believes herself to be doing so, has her own unique experiences of Deity, though they show themselves in type of behaviour or choice of prayers and hymns, and not in the use of a different word-formula for her creed. If the reasoning throughout this work were always correct, and the range of material which is employed both as wide as possible, and evenly and impartially selected from every type of fact, no doubt the resulting view would be nearer the *literal* truth than any other, so far as that truth is to be expressed at all in words and ideas derived from the conditions of our present life. But this accuracy would not in the least render it the best view for ordinary purposes. Others may have religious

Relation of
metaphysical
views of
religion to
popular
conceptions.

experiences too deep to be gauged by the words of the pure intellect, which must be intelligible, and hence in part conventional. Then, since some type of expression is unavoidable, they may find the simpler formulas more suited to the combination of an average intellect with deep religious intuition. For we firmly believe that the genuine pursuit of truth is by no means suitable for most human beings. Real truth of the highest sphere, if it emerges at all, struggles out unattractive and dishevelled sometimes from the wreck of a character of noble instincts, and soiled in such a chaos of dross that it barely knows itself. It is so with all the nobler side of man. Broken hearts, says Carlyle, are well enough in books, but in life they mean the windows of the soul blocked and besmirched with grime. Darwin in his later years regretted the inevitable sacrifice of much that he had recognised as best in his youthful mind. The average "highly educated" Englishman is certainly satisfied with any conception and ideal which is practicable and cheerful, and doubtless he knows his own business. But he is tiresome if he dubs the effortless clamouring of unintelligent conservative instincts as the "battle of truth."

We have spoken of "man in one sense creating God," yet the apparent strangeness of such a view would disappear if we referred to the ordinary conception of the progressive revelation of God to man. But the former method of expression is necessary for intellectual purposes when we are connecting the problem with other branches of thought, and are discriminating God and the Absolute. The ordinary religious consciousness knows God only, and if it accepts the intellectual conception, the Absolute as its object, does so merely through intellectual misunderstanding. The Absolute has no place in a sermon; if the Absolute were all, there would be neither men nor sermons. God, in the ordinary vague and uncriticised sense, is obviously not created by man.

CHAPTER XI

HUMAN IMMORTALITY

WE have not the usual excuse for avoiding this problem, on the ground that it is not strictly metaphysical, since our treatment of the theory of existence has indirectly involved the consideration of its probabilities. Similarly, the discussion of the ideal instincts led to the necessity of attempting to determine the relation of the conception of Deity to that of the metaphysical Absolute. In the case both of Deity and human immortality we do not claim that proof is forthcoming, but in the twentieth century it is possibly the opinion of some that all discussion, even of the probabilities of this subject, must be quite worthless, and it is therefore desirable to give our reasons for suggesting the contrary. We shall not repeat in detail the direct evidence lately brought forward by Myers, which is certainly not to be despised, though it is not conclusive, and since we shall be mainly concerned with the probabilities on psychological and other scientific grounds, there seem to be two ways of regarding the subject, which are truly relevant to the issue. We may consider, in its observed environment, the instinct itself, which persistently suggests a future existence, including reflections upon the desirability of such a condition, and we may review the principles according to which new types of existence of all kinds have hitherto appeared in the universe, and consider whether our psychophysical organisms, as now observed,

show any preliminary signs of preparation for an analogous further development. This latter aspect of the question would doubtless appeal with varying force to different minds, but to the writer personally it seems that it is unnecessary to dismiss the subject perhaps with a smile or a sigh, just at the very time when scientific researches have shed so much light upon the methods of activity characteristic of the universe, when new forms of existence were about to appear in past history. We have, of course, no guarantee that the same principles will always be applicable, yet when a considerable bulk of possibly trustworthy evidence has been accumulated in Myers's *Survival of the Human Personality*, it is surely worth while to consider what we might on intellectual grounds expect, judging from our modern accurate observations and definitions of mind and matter, and, on the other hand, whether our moral judgment really justifies us, on its own ground, in hoping for such a consummation, as immortality, for man.

Does humanity
really desire a
future exist-
ence?

The question has lately become prominent: Does humanity really desire an immortal existence at all? and it is urged, especially in France, that the very idea, if honestly thought out, is both absurd and horrible. The Buddhists also, it appears, do not wish for an "eternity" of personal existence, though the exact nature of their desire is not easily to be comprehended by the Western mind.

The psychologist, however, is aware that in such a case it is generally misleading to ask what mankind desires. When men's desire cannot attach itself to any definite object, it necessarily tends to take a back place amid the hustling mob of instincts applicable to the present life. As a fact, the only definite idea which is possible is reunion with our dead; consequently it is to this aspect of immortality that the instinct attaches itself, and it is on the occasion of bereavement that it exerts its chief influence on the ordinary

mind, which seems otherwise only affected by a vague desire for a "second chance" or a "better time some day." To the question: Does average humanity really desire a future life? we answer that a psychological consideration of the nature of desire shows it to be highly improbable that such a longing will in ordinary minds be very marked, simply because a strong desire usually requires a definite object, except in highly idealised beings of poetical feelings. Otherwise we might well conclude that, as far as average penetration can discern, the larger proportion of human beings, even amid the civilisation of England, show little sign of taking the matter seriously at all, being content to repeat mechanically the uncritical formulas in which they have been educated as children, or otherwise to disregard the question altogether. At the same time, a latent interest of some small value is shown by the fact that an attack upon these formulas usually arouses a strong opposition. But such opposition is always excited by an attack upon anything, good or bad, which is of ancient standing, and mainly exemplifies the sluggishness of the normal mind. There are, of course, a certain number of persons whose declared disbelief in immortality is really to be traced to mere conceit and the desire of appearing to possess superior knowledge. Such a trait is often exhibited under cover of popular science. But it is also undoubtedly true that the modern biological conception of mind is utterly antagonistic to the ordinary belief in immortality, as usually interpreted.

As soon as there is sufficient imagination to vitalise the instinct, it is probably accompanied by the development of the critical judgment, which culminates in a French view, that an eternal life would be an eternal *ennui*.

Of course if we regard immortality as a mere continuation of the present life, with quite similar experiences of time, activity, external existence, and

Eternity cannot be the mere prolongation of time ; *ennui* is due to causes which would not be equally operative under other conditions.

personal intercourse, it is not surprising that some thoughtful men should regard the conception as intrinsically impracticable, and incapable of offering any serious solution of the cruel injustices of some lives. *Ennui*, however, to return to our first instance, depends on several causes. Among its many sources is the lack of capacity for taking a really intelligent or moral interest in surroundings, or a crushing blow, paralysing this capacity, unless an effort be made, or the contrast of monotonous surroundings with a mind intensely active, yet failing in self-reliance and capacity for exhibiting continuous purpose. The complete change of environment involved in death would directly and indirectly act on the mind for the better in this respect. But far more important is the necessary fact that the mind itself would be altered. No worthless suggestions will be made as to the positive character of its new form. But we can safely point out that its present form depends essentially on a particular relation with the material aspect of the brain, which obviously would not exist after death.

We have already mentioned the complete relativity of our present rate of mental action to our particular physical environment. The "pace" of thought can be altered by physical stimulants, especially alcoholic, and our mode of recalling memories also depends on the integrity of the nervous complexes. It is said (though we do not quote this on evidence which has been critically examined) that drowning men have practically seen all their lives in a second, and observations on the comparatively instantaneous character of dreams, which seem lengthy to the dreamer, also tend to indicate that if there is a future existence at all, we need not necessarily fear *ennui* in this connection. I have personally experienced a long dream, including battles and hurricanes, and woke in time to hear a thunder-clap dying away. Afterwards some one, who had not been in bed, remarked that the *single* peal in the early

morning was peculiar. Of course it cannot be proved in this case that the thunder inaugurated the dream. The experiences of Mozart, already quoted, are also significant, in reference to this objection as to *ennui*, and are far more remarkable, because occurring in a waking state. So far from *ennui* being in store for us, the available evidence discloses the possibility of a natural development of unheard-of mental activity. It is often felt by those who know life most deeply, that pain and the tragic side of existence are indissolubly woven up with its brighter elements. We do not suggest that this aspect must be abolished. But we could welcome the prospect of some pain if there were also increased channels for energy and unhampered sympathy of others, no longer blinded by the conditions of spatial separation and inevitable ignorance of each other. A great exercise of reflection and imagination is needed to realise what life would be even now if we could but "know as we are known," and if telepathy were unailing.

The Oriental Buddhists, on the other hand, apparently wish to escape from personal immortality. This is quite a different attitude of mind from the European "vagueness of desire," which we have attributed to the absence of some object, easily definable by the intellect, to which the instinct could attach itself. We must, however, once more defer the consideration of the Buddhists to the second part of this chapter, when it will perhaps be shown that their disinclination towards an apprehension of God as a person, mentioned in the last chapter, is intrinsically connected with their lack of desire for a personal immortality. Omitting discussion of the Buddhist view for the present, we may say that humanity at least desires immortality, unless the instinct is clouded by special circumstances, the irrelevance of which we have attempted to indicate. And since we have paid so much attention to the average man, following the fashion of modern realism, it is also just

to observe that powerful minds of every description, in "practical" life, thought, or art, have generally displayed a strong instinct for immortality, except when affected by particular intellectual considerations. Such considerations are open to challenge on their own ground, and are often dispelled, or at least modified, by the advance of knowledge revealing facts of a new character. The value of such special intellectual opinions, moreover, is not proportionate to the general intellectual power and force of character of the great man, but to his capacity as a trained reasoner, accustomed to deal with the necessary abstract conceptions. Thus the actual *opinion* of a Napoleon or of a Justinian is quite worthless on such a point through their ignorance of the relevant facts, but it is important to inquire whether such men had the *instinct* for immortality strongly developed. It is recorded that when Laplace presented his great work on the mechanism of the heavens to Napoleon, the latter remarked that he had said much of the universe, but nothing of its Creator. "Sire," replied Laplace haughtily, "I found no need of Him." The opinion of Laplace was worth more than Napoleon's, and it is justified to-day by the universal attitude of natural science. No one would now think of referring to God in a serious scientific work. Yet the great mathematician, astronomer, and physicist took account only of the facts of his own sciences, and knew nothing of the equally valid facts of psychology. Kant, who, as an astronomer, was the actual originator of the nebular hypothesis, had a wider outlook through his metaphysical investigations.

We may shortly proceed to inquire whether we are justified in claiming that the universe, so to speak, really owes us immortality on moral grounds, assuming for the present that it will finally prove to endorse the moral instinct.

To quote a scientific view, Metchnikoff believes

that there is reason to suppose that, if human life were prolonged to the extent which is "natural" to it, but which is at present curtailed by our gross ignorance of the best means of combating our environment, an "instinct of death" would be developed and we should no longer feel the desire of immortality. This, he says, is merely one of the "disharmonies" of our organisms. We may, however, observe that even if the physical conditions of our bodies at the particular period of extreme old age resulted in the development of such a feeling, there would be no logical reason for assuming that this instinct must be valid if it collides with the higher aspirations of a lifetime. The chances are at least even. We have all been at times too sleepy to maintain concentration of thought, even upon the most sublime themes. Metaphysics, on the other hand, has always recognised the necessary survival of mind in some form, but this form need have no connection with ours. Thus Mr. Bradley, in his remarks on the subject in *Appearance and Reality*, wishes to know whether we expect to obtain everything we want, warns us that if we still hanker after what we are not likely to get, complaining that we cannot live without it, we must make place for a race who can manage more economically. We must, in fact, get over the desire. There will, however, always be a necessary "note of sadness" in life. There is much more, he says, than mere morality and justice in the universe. For us it seems there would be much less, if he is right. In the few words which he devotes to the question, which, of course, has no bearing on the treatment of his subject-matter, he is, however, more concerned with the ontological aspect of the problem, which will occupy our last section. In connection with all such opinions we believe that the growing conviction that mind apart from matter and the converse are mere abstractions, both from a scientific and a metaphysical point of view, is responsible for disbelief in the

Are we morally
justified in
demanding
immortality?

probability of immortality. We hope, however, to show presently that this well-founded conviction does not in reality affect the latter question.

It is with some diffidence that we raise an objection to such a description of the facts as a necessary "note of sadness" in life. For it may seem to be the preamble to an unmanly wail over the woes of humanity. But it is not intended to make the actual pain that is endured our chief justification for pessimism, if there is no future existence for us. We cannot, of course, attempt to base anything decisive upon the weighing of the happiness of humanity against its misery, and if we could do so, we should have turned aside from our main purpose of considering what is really the moral obligation of the universe towards us, if it recognises such an obligation at all. For we all know that morality is not weighed in terms of happiness, though it may not ultimately exclude it. As far as human observation goes, there seem to be whole families and even races whose general happiness and evidently spontaneous cheerfulness far outweigh their infrequent displays of depression. Often they candidly say that they are having a thoroughly good time. Again, those who are capable of complete absorption in a pursuit which is not too vividly suggestive of the seamy side of life may be called happy. There are also many whose imaginative development is not sufficient to make them strongly realise themselves, even implicitly, either as happy or miserable. It is not likely that such alternatives, for instance, are truly applicable to the animal world at all, except when affected by direct "physical" pain. There is not really "mind" enough either to be truly happy or miserable, for there is merely superabundant instinctive activity. But, on the other hand, it is probable that pain is capable of far greater excess than happiness. Its extent certainly cannot be measured by the spasmodic desire for death, or even by the impulsive suicide. It is significant that

Happiness cannot be weighed against misery, just as minds cannot be balanced in scales.

the records indicate that the first touch of "mental" pain causes an unexpectedly large proportion of suicides among minds likely to be unaccustomed to it. But we have also far worse cases to consider. It is possible for a man whose mental life has been unusually vigorous, and who is not generally regarded as unhappy, to be reduced by the interaction, with his particular type of mind, of circumstances apparently not very exceptional, to a condition, the truth concerning which is marked by definite physical signs. These, unlike conscious complaints, must of necessity be genuinely representative of the tenor of his whole life.

On principle, such a man would consciously avail himself of all the prescribed means for recovery, and his strictly vital processes also may not for a long time be seriously deranged, while active work is also continued, but the entire physical nervous tone was so gradually lowered by purely mental pain that, according to explicit medical views, there was not the usual subconscious effort to prolong life. In fact, even the fundamental instinct of self-preservation, whose automatic working is exhibited, at least occasionally, on the approach of death, may altogether cease to be effective. Such minds and lives are not exceedingly rare, and are often of unique value to others, but could hardly be described as merely containing a "note of sadness." We should scarcely ourselves be prepared to incur the responsibility of creating many happy lives at the expense of one such contrast. Carlyle has asked: What right have we to claim to be happy? We admit the force of his question, but at least we may ask to understand the reason for our existence. There are indeed great and noble men among us who, realising all, yet declare themselves content without definite hope or regard to the future. But they are usually advanced in years, and not without some measure of success in this present world. The "clay," in our view, if once made conscious of itself and of rights, has certainly

some rights against the "potter." It is not so much the mere desire for happiness to which we attribute the instinct of immortality. Any being who has traces of nobility in him, revolts from a meaningless annihilation in ignorance of the final judgment of an omniscient God upon himself, his works and failures. We know that our criticism of ourselves is worth little, and that of our fellow-creatures much less. Conscience has only a certain voice for the children either in years or spirit.

Criticism of the fundamental principle, under which all existence runs its course.

But it is for a different reason that we believe it literally true that pessimism, so far as this life is concerned, lies deeper than optimism. For the general principle under which all living things now exist is of a horrible and revolting character. We are only happy as far as we are children in spirit; the abyss is the certain reality, and our means of supporting ourselves fail at the first touch of thought. Many of us may not realise or may successfully stifle the truth that the glory of civilisation rests essentially on shambles, human and animal, but our heedlessness does not alter the fearful nature of the established order of things. The noblest deeds or thoughts cannot be achieved without food, and food means killing. The possibility of the happiness, and even of the moral elevation, of any one being is purchased only at the price of the misery and degradation of many. Directly or indirectly there is no such thing ultimately as the success of one creature save at the expense of the comparative failure of another.

Let us look at our own national career. Chiefly, we follow those who worship money and war; of these, the monopoly of commerce, which the extravagant standard of our living demands, cannot but involve harm to other races, and war, of course, is their downright destruction. We succeed, for we are very practical, and we are now the greatest Power that the world has seen. The policy of Great Britain, indeed, has, on the whole, been praiseworthy, for again and again she has

been forced by circumstances to choose between empire or her own peril, while humanity has often, injustice seldom, cruelty never, been displayed. Yet we arouse hatred abroad, and if we comfortably attribute it to mere envy we are in part deceiving ourselves. Despite that sense of justice and consideration for others which takes shape so definitely in British sport, despite our splendid self-control, our ruling interests are "of the earth, earthy." It is not understood that when we have accumulated wealth, and defended it valiantly in war, we have done well indeed, and have immensely developed the animal life, but so far little is achieved for humanity or for the spiritual aspirations of man, little new to justify or encourage their threatened persistence under markedly altering conditions of life and thought. From this standpoint it is only by her imperial idea of ruling for the sake of her subjects that Britain is not found wanting in the balance; otherwise, as a nation, we can *intelligently* appreciate only those acquisitions which, though gained honourably, must still be gained from others. The justice and respectability of our dealings merely irritate them the more; feeling the pinch of necessity, yet rightly conscious of their own superior appreciation of many higher things, they hate the nation which they cannot exactly blame, yet feel to be unworthy, from certain standpoints, of its high prestige. We are too well adapted to this present world, and act up to our ideals so admirably, because they rarely transgress the bounds of prudence. Shakespeare, the *perfect success* (with bated breath, be it said), is typical of us, the poet whose powers of expression never fail because he is too wise to attempt what cannot yet be figured. That is left for music, and we know from what country music and musical understanding have come. In England a noted publisher stated that he was in no way concerned with the merit of music, but solely with the position of its composer. And it is thus that the truth comes out; we must strain our finances to crowd the seas with

battleships, relying on brute force after all, despite the genuineness of our religion and morality, as far as they go. Doubtless we must not turn back; our Navy League is to be commended, for we have striven so long, so single-heartedly, for the things which can be held only by the deprivation of others, that we are the marked quarry of the world; hence militarism must grow and expand, till Time brings the inevitable slip and History records the mighty fall of Britain. No one who has conversed intelligently with Italians from the land of Art, or with the Swedish devotees of Science, will fail to understand how significant is the phrase "the spirit of a nation." A nation is not noble by the production of great men, who often are great just because they have struggled with an unsympathetic environment. We judge a race by the general level of discrimination, conduct, and taste, and by the high character of its engrossing and generally prevalent interests. It is thus that the ancient Athenians were unique; excelling both in lower and higher spheres, they recognised, as a nation, what was best among themselves, and were aware also of their own failure in other respects. But in the main the supreme end of the higher classes of some Continental nations is a military career, and their noblest aim to protect others from perils created by nothing but their own spirit through many generations, and still rendered chronic by its persistence. History shows plainly that wars have abounded mainly in proportion to the prestige of a military caste. Our British soldiers have usually the prospect of some frontier work, but so long as on the Continent the glamour of transient heroism and social prerogative gilds a life of idleness, Hague conferences and proposals for disarming may meet with universal praise, but hardly with acceptance. We dare not disturb the balance of power, it may be said, but if each nation, year by year, interred a battleship decently in the depths of the ocean, would

not even Englishmen think that they were losing the apple of their eye ?

We do not wish to be misunderstood on this point. We believe in the "mission of the white race" and the "blessings of civilisation," easy though it be to satirise them. Where there are savages, there must of course be an army, and in our Indian forces the unprejudiced observer usually notes the best of the military type. But the portentous burden of preparation against European foes we do not hesitate to attribute ultimately to the *unconscious* vested interests of some of the upper Continental classes, and to the inevitable policy of certain of the ruling dynasties. A socialist *régime* in their place, however impracticable as regards some of its politics and economics, would afford a great impetus to the abolition of European struggles by modifying the classes, who fit themselves for nothing but war. The French Revolution produced war, it is true, but only because the surrounding monarchs in the first place tried to crush it. They were pitifully ignorant, like the Cavaliers, of the spiritual forces, which, till contaminated by Napoleon's lust of conquest, were destined to sweep them to the winds. But at least two monarchs on the Continent could not now disband their armies without losing their thrones. The political situation and the development of artillery have made standing armies a necessity for the past three hundred years, but such a situation is not intrinsically inevitable. Our point is that the creation of a military profession has engendered a spirit and attitude of mind which could not recognise the truth if in the future wars should really become unnecessary. Yet even the Romans, most warlike of nations, never showed a finer spirit than in the days of their citizen soldiery.

Our popular generals tell us that a nation cannot be virile without war. War is indeed needed to keep the *idle* virile, but the Americans, who reck little of it save through infection from Europe, are not effete

by reason of their industrial energy, leaving out of account scientific and administrative resource, and the higher qualities, which perhaps languish among them, would never be acquired by war. Commercial competition is certainly the ordinary *casus belli*, but only because the weapons are ready to hand. Some nation "occupies" a hinterland—with guns, and the harm is done. Even now we are threatened by the possibility of a new war, simply because there are more or less irresponsible warships loose in the Red Sea. But "spheres of influence" might in time be fixed once and for all, as already in Africa. Feminine influence, by associating virility mainly with the first obvious type, must on the whole be unfortunate for the world in this respect. If it is made a point of honour to shun reason, good is often done in small matters but harm inevitably in far-reaching issues. The great lady of politics, for instance, is only too notorious in history. To applaud those who have fought (especially those who left appointments to volunteer) for their country is right enough; but to idealise the military profession as the worthiest occupation of man, and monopolise for it the prestige of "serving one's country" does no inconsiderable harm. The scions of ancient houses naturally tend to the mediæval pursuits, which are then unduly dignified by coexistence with the better aristocratic qualities, while the conservative tendency of the older nations makes the parvenu follow suit. It is true that many dramatic and picturesque aspects of life might vanish by the abolition even of European war, but the same was true when Christianity extirpated the graceful paganism of the Greek world, and after all the show could be retained when the reality was gone.

Doubtless the spirit of "physical adventure" should have its place in the world, but when it leads to the terrible disorganisation of all the complex conditions of existence, which ensues upon a modern European war, it is engrossing much too large a place. The Age of

Chivalry had some charming traits, which we can never reproduce, but no one, who can read between the lines of the old chroniclers would wish to restore it. It is absurd that the destructive should predominate over the creative, but this is not the case so long as wars are not waged between the centres of civilisation.

In thus stating our belief that European wars are only made inevitable because the ruling classes repeat that they are necessary, we wish to lay stress upon one point. We base no hopes upon an ideal suppression of the quarrelling instincts of mankind. But we believe that a social system is possible in which a more satisfactory distribution of work would prevail (including "work" in the most liberal sense), and hence few should be *organised in readiness for fighting*. Then the prospect of war would be so ruinous to every one that the fighting instinct could not take shape with its accustomed hellish results. At present the absolute and military monarchies on the Continent, together with the classes to whom they have deliberately given social prestige, are at bottom responsible for forcing the republics and constitutional kingdoms to keep up vast armaments in self-defence. Reform the constitutions of the former, or split them into smaller states, as half their own peoples already desire, and enlighten by true education or economic pressure the outlook of their leading circles; then in a century or two financial conditions might naturally eliminate war between civilised nations. Though it may seem ungracious to personal friends of the military profession, we confess that, as a matter of honest thinking, it appears to us that some whose honourable pride it is to serve their country may help to perpetuate unconsciously a great evil in the world by some of their views. And the misery of it is, after all, largely borne by those who do not share the glory.

The editor of the *Spectator* has lately defended the ideal of war in a worthy manner on the ground that

a nation is the better for making great occasional sacrifices, and that when the genuine but conflicting ideals of different races collide, brute force must be the court of appeal. But the permanent sacrifice falls upon the very classes who are continually sacrificing themselves in other ways, and do not need and cannot bear this additional call with benefit. For what is the actual teaching of history? The social, moral, and intellectual degradation of England was never greater than during the fifteen years which followed the great struggle with Napoleon; improvement only came in the wake of the political and industrial thinking of the Reform period. The Elizabethan splendour also followed upon the first long epoch of comparative peace in English history. The fact is that one may easily exaggerate the ennobling effect of a desperate effort to save one's skin. As to the conflicts of genuine ideals, surely the growth of reason and science tends to eliminate trouble from this source. Rightly we still sympathise, some with the Cavalier, others with the Parliament, but now we can all appreciate both sides, and should never fight on such issues again; it is deeper thought, and not brute force, that has reconciled ideals, which were both noble and yet conflicted. Our modern civilised wars have a less creditable origin in commercial competition or the ambition of reactionary ministers. Were it not for the actual existence of huge armaments, these might be easily shackled in the web of financial relation, political treaty, and international law. Short, sharp struggles for liberty have at times done good in the past, but modern wars, with far less inspiring motives, simply deplete the vitality of nations by the protracted exhaustion due to their indirect results.

We have spoken at some length of an evil which does not appear to us wholly irremediable, for we cannot believe that reasonable human beings, in a matter at their own discretion, will not in time come

to some agreement as to the welfare of all. We know that it is habitual to describe the suggestion of any great change as unpractical, even though the possible amelioration is admitted to be necessarily gradual. Yet the same has been said of every reform, from Christianity to the abolition of slavery. But other difficulties are not of a similar nature. Development of the physical resources of nature is often a clear gain to all, but the limit of this process is quickly reached ; it tends to mere luxury, and a new set of special evils are usually involved in its working. "Arcadian" life among the trees and meadows of a peaceful country hamlet requires, with our present scale of living, moneyed investments, the labour for which was worked out in the London slums. Worst of all is the fact that the greater the development of those instincts, which we all recognise as higher, the greater necessarily the appreciation of the dark side of life, and the greater the consciousness that such ideals are mainly impracticable. There is not merely the question of weighing happiness against misery. We have to deal with the fact that, if this life be all, the highest nature is synonymous with the fullest realisation of ultimate failure. The underlying principle of all evolution is inexorable ; pity and charity, like Homer's Prayers in the wake of Atè, must always be striving to repair that which is mainly irreparable, for as a rule they have not even to deal with the results of conscious cruelty, which might be eradicated, but with sheer necessity. The very principle of our existence is the death or downfall of each other, and at best we can only make the struggle less brutally patent. Meanwhile the hateful instinct to surpass others which is thus bred creeps silently into the highest deeds and thoughts, sullyng their purity. The condition of success is that our aim be pitched low, for we must spend our time "getting on" in life ; so must the tiger and the fox ; the teaching of experience merely warns us to imitate the latter, and—be "brainy."

Rightly we indict the present universe, for it is such that a very Christ could not live in it save by the daily destruction of animals for His food, and by the humiliation of those who at least strove to be righteous in their own eyes. We may indeed be confronted with a universe which shows the beginnings of a sublime purpose, but if we are deceived we are beholding a contrivance of diabolical ingenuity. For it is bad that savages should find in war their only pleasure, that military ideals should still direct the policy of some civilised states, but it is a refinement of cruelty that ideal instincts should be evolved whether we wish it or not, apparently for the very purpose of fully realising their own futility. If this span of existence be our all, it is a world where the tubercle germ is "successful in life" by extinguishing the genius, where by a high instinct we educate and enlighten, merely that others may be as capable of realising their misery as ourselves; we labour for others, and they again for posterity, till the final triumph of matter over mind is well symbolised in that ultimate darkening of the sun which must consummate in a universal hecatomb the blood-stained course of organic evolution.

"All this is only healthy competition; without it no one would do any work," says the "strenuous" journalist. But the work can have no worthy object, the spread of civilisation tends more and more towards the "millennium of the electric button," the public taste forces the true composer to adapt himself, simply that the last child violinist "out" may display his technique, pictures are bought by the yard to fit vacant spaces on the pork king's wall, science is mainly valued for its latest improvements of the motor car, and Christian self-sacrifice is replaced, even as an ideal, by the "enlightened" adaptation of altruism to egoism. The parody of the ideal is worse than its absence. It is not so much the strong who survive and set the tone of life as the comparatively coarse-grained. Conventional good nature and good feeling are indeed quickly

acquired by the new-fledged plutocrat. Most people are "nice" nowadays, and also usually appreciate at least some form of art as a stylish fringe to luxury. But in truth the ideal by its nature must be first, at least in estimation, or it does not exist at all. And its existence is marked by the power of unaided discrimination between the decent behaviour demanded in society and spirituality of interests and character. The latter, indeed, by reason of the temporary reactions which it produces in forcible natures, is often likely to coexist with obvious flaws of character. But if the multi-millionaire is to be the *effective* ideal of humanity, though he be personally neither better nor worse than the average man, there certainly remains little ground for supposing ourselves worthy of immortality.

We believe that if there is no future existence, the world is radically evil for us by *principle*. Man, realising the fact, might still live according to ideals, but his Creator he would regard not with reverence but with disdain. For the splendour of Nature and the sublimity of mind could only bring into stronger relief the ghastly principle to which he owes his existence. Even if it be true that, by developing our own characters, we further some great purpose of God, surely it is not just that we should be allowed intelligent minds, only to die in doubt as to whether there was ever anything worth helping. We cannot, said Carlyle, even believe in a devil nowadays whom we may fight. The terrible isolation of mind in a purposeless universe, which is rendered invincible by its very vacuity, crushes the strongest spirit, if ever fully believed and realised.

Even philosophy has usually been coloured by the personal element, not, however, because the true thinker allows his reason to be distorted. But the range of facts, which he observes or utilises, will include more which tend to confirm an optimistic view or the reverse, according to his temperament and personal experiences. We cannot expect intellectual and artistic Germany,

groaning under the burden of an excessive competition and a bombastic militarism, to produce anything but the philosophy of despair. It will be observed how the optimism expressed towards the end of the previous chapter has now been qualified by a full appreciation of the type of fact upon which Schopenhauer or Von Hartmann lay stress. We can only add that in the absence of the hope of immortality we should be prepared to accept to the full their views, so far as they apply to the upshot of human life. Such authors indeed, unduly influenced by the purely biological facts, scarcely consider the possibility of a future existence at all. But a consideration of the facts of all types, especially those of a psychological character, which, after all, are most directly relevant to this problem, does not justify such a curt dismissal of the subject.

We have not hesitated to depart from a dispassionate standpoint on this occasion, for though the researches of natural science have been applied in this work for the purposes of metaphysics, the latter, which should deal both with mind and matter, ought not always to maintain the purely intellectual tone, which alone is befitting the reasoned and experimental study of nature. Sentiment must never replace reason in the argument, but when part of our work is to place in their due relation the feelings and instincts of mind, we are justified in using their natural language; further, it is desirable not to seem too far divorced from such mode of treating the problems of the universe, as is familiar, for instance, in Carlyle and the more philosophical poets. Carlyle, prophet rather than thinker, knew both the strength and the weakness of the pure intellect, for in the same section he is wont to revile the "words" and "abstractions" of metaphysic, yet soon is found applying the Kantian doctrine of space and time, embodying it in those vigorous phrases which actually need a knowledge of metaphysics to be fully appreciated. In *Sartor Resartus*, "the Everlasting No" is typical of his mind,

a chapter which might almost serve as a test of men's characters in proportion as they appreciate it in varying degrees. We wish to show recognition of both the value and necessity of such work to the development of the pure theory of the universe-as-a-whole. Its strong presentation of psychological facts makes explicit some truths, implicit in most minds, which might otherwise be shelved by those in whom the intellectual aspect naturally predominates, and tends to obscure the underlying instincts of mankind. Such an attitude as that of Leslie Stephen towards Carlyle exhibits the typical error of the man of the world, whose views of the universe suffer from too great appreciation of success in a limited sphere.

We may now pass on to the purely intellectual discussion of the general scientific evidence which may bear upon the possible destiny of mind, as opposed to the consideration of the claims of those ideal instincts which the universe has itself produced in ourselves in the course of evolution.

If we ask whether it is possible that mind will exist after death, we must first recall the meaning given to its separate existence at present. It was remarked in the last chapter that mind, if taken by itself as far as we observe it, apparently is only feeling, knowing, and willing, "loose in the air" so to speak, and attached to nothing. Its separate existence, as actual mind, consists entirely in its realisation of itself, so far as we have positive evidence. It was for this reason that we persisted throughout our whole work in employing terminology of a materialistic character in referring to the animals, which, being non-introspective, display mental activity but not mind. There is certainly little ground for supposing that the ordinary animal can "survive" death, for it does not exist, as purely mental, in its present condition. Nothing but genuine mind, which, as previously shown, creates itself as the mental entity only in the act of

Review of the probabilities, judging from the character of previous evolution. The exact meaning of mental existence in the present life is self-realisation, implicit or explicit.

realising that it is mind, need be considered in this connection. It may be said that such a view would exclude all the savage races of mankind and all civilised children. We must, however, remember that psychologists carefully distinguish between the implicit and explicit self-realisation of mentality. The real test is the ultimate capacity of the savage for realising himself, and we know that if he is so far implicitly self-conscious as to possess a *conventional* language, he can in course of time be educated so as to attain explicit consciousness of himself. It would also be equally false to suppose that any realisation of the self is attained by intellectual development alone, though the intellect affords the sole means of explicit self-realisation. It is thus even possible that the dog, in his extreme love for his master, might attain a degree of implicit self-realisation. At all events such love is perhaps on a quite different level from the blindly instinctive affection of the mother-bird for its young, the disappearance of which at the termination of the breeding season is as complete as its appearance was sudden. Indeed, it is in this case often replaced by an equally instinctive cruelty. When we consider also that the earlier forms of self-realisation are induced by some striking change in the environment (conscious effort being the latest and highest product of evolution) it becomes evident that if there is any latent power of self-realisation in a being, the great change of death would bring it to light, if this were possible at all.

Since the full meaning of the *Origin of Species* has been grasped, it has always been felt that immortality must apply to all or to none. Darwin himself remarked that no one ever asked at what point immortality became assured in the development of the embryo individual, though the difficulty was an exact parallel to that arising in the consideration of the race. This is true, but, introduced apparently as a consolation, is not satisfactory, since it can only suggest the silent reflection that

immortality can be applicable neither to race nor to individual. The psychology, however, of the great biologist, as exemplified in his treatment of remorse, was not developed beyond a certain point, and it is with this aspect that we are here concerned. We do not propose to suggest immediately a possible solution of the difficulty involved in that question: At what point? because it will follow logically upon our final statement of the nature of mind, when considered in this connection. But if it be asked what becomes of the "mentality" of the animal, we reply that according to the physiological evidence this term refers merely to the activity as a whole produced by the composite effects of atomic brain-activities. When death disintegrates the nerve complexes, such activity naturally ceases to be displayed. We have no reason for supposing that the animal is capable of that introspection which simultaneously creates in us and reveals to us mind, taken as a new type of existence. But we ourselves knew of mind long before we knew of material nervous brain-activities. The merely atomic activities of the animal's brain still exist in us, and the particles, as thus active, can be seen by surgeons, but we also are aware of them quite differently as a totalised existence, mind, in introspection. We have pointed out in an earlier chapter that this is simply a plain example of that frequently misconceived process, "transcendence." As far as the animal's mentality after death is concerned, the material universe continues to contain potentially that quality (as in entirely pre-mental times) which, given the right material combinations, necessarily becomes again explicit in another animal's "mental" activity. In fact we claim that an animal does not exist after death, mainly because, as mental, it does not truly exist at present. Its mentality could *mean* nothing except matter totalised, and hence *is* nothing additional. For the existence of an animal *for itself*, so far as there is such an approach to intro-

At what point could immortality begin in the evolutionary scale? A final view of mind is required before a full answer could be given.

spection, probably consists, in the main, merely of the coenæsthesis. And it is only by its sudden cessation, for instance, in spasms of angina pectoris, that this general sense of physical existence is for the first time brought into vivid apprehension, as the mainstay of experienced existence, even in the human being.

Our whole treatment of this part of the subject may be summed up in the demand to define precisely what we mean by "mind" in our present life before we ask whether it can possibly survive death. We may, however, present our conception in one other form before passing on. The higher animals at any rate can feel one purely psychical phenomenon, pain. But the real test lies in the character of the resulting activities. A savage's actions, and especially his language, certainly involve implicit self-realisation. But the infrequent pain of ordinary animals does not seem to produce that modification of their displayed activities which could only spring from a latent self-consciousness. It is indeed possible that in the case of the dog, for instance, and perhaps of some birds, this account is no longer quite true. A "mental" existence, however, which was entirely developed by appreciation of another being, would hardly be of the same type as the human. Such a possible survival of animals would be of a different character, but there is no reason for attempting to define its nature when we can only discuss the possible survival, not the actual form, of the human personality itself after death.

The Buddhist view both of God and immortality discussed.

We may now introduce the Buddhist's conception, the consideration of which we have twice deferred. The Oriental races are certainly capable of self-realisation, but in many cases apparently strive to abolish it. Some of them exercise themselves in methods of inducing trances, with the object of annihilating their separate self-conscious existences. We have no special reason for supposing that they will not finally succeed. Their own statement is that in course of ages they believe

instinctively that they will attain "Nirvana," that is, they will be absorbed in the Absolute. It is possibly more likely that individual self-conscious mind can destroy itself, as a separate existence, than that material processes can annihilate it. We have no evidence in this matter, one way or the other, except the Oriental expression of their own instincts, but we mention their position, for we wish to show that, according to the strictly psychological conception of mind as willing, feeling, and apprehending, the lack of desire for immortality displayed by part of humanity is no essential reason for assuming the disappointment of the remainder. For their non-personal apprehension of God, which is equivalent to their apprehension of Him in terms of the Absolute, is important in this connection. Our view of Deity, expressed in the last chapter, indicated that the development of the human instincts by effort and realised pain, at first merely biological, but afterwards ideal, was necessary both to the development of our personalities and to the differentiation of God (for our apprehension) from the logically necessary Absolute. If these instincts are deliberately repressed and atrophied, it naturally results that the Absolute is instinctively experienced merely as impersonal. It seems literally true, in the deepest sense, because displayed by their very *sub-conscious* instincts, that the Buddhist leaders abandoned the great struggle because they have only too fully realised the price that must be paid by some in order that the race may fulfil its destiny. We cannot approve their choice, but it is not surprising that they have so chosen. There is at any rate no occasion for the shallow contempt often displayed towards them by the more thoughtless of the Europeans. The characteristic apathy of these races in face of death, and in many other connections both of thought and feeling, their acquiescence in Destiny, while the European is vigorously active in devising means for overcoming or evading perils—all tend to show that

their comparatively impersonal intuition of Deity and their desire to avoid personal immortality (or any affirmation of their separate individualities) are merely two aspects of the same instinct. They are the apparently worn-out pioneers of humanity ; an enervating climate, combined with the undermining effect of intellectuality, without determination sufficient for active production, is impairing the instinct of self-preservation. According to our last chapter that instinct is the original, from which arise the instincts, which are a necessary complement in our ultimate apprehension of God as a person. The self-preserving impulse, as pointed out in the chapter on the ideal instincts, is itself merely the expression of the formation of any real existence under the conditions of time, and only requires curbing when it afterwards collides with a more lately evolved appreciation of the claims of a wider existence. In itself it plays a necessary part in the apprehension of God. We should, however, be committing a great error if we classed these Orientals among the races who are merely less advanced than ourselves in the career of evolution.

Discussion of the principle on which new totalisations or differentiations have previously appeared in the universe.

We have now to consider the character of the previous evolution of new forms of existence, as exhibited in a scientific account of the history of the universe, such as that of Herbert Spencer. They have always appeared as differentiations, nestling within an inclusive whole. It is thought probable that matter thus took its origin in a previously undifferentiated ether. Solar systems, and the systems within them, appear in the same manner ; there is not, however, in this case the development of anything which would appear to us as new "material." The living organism, whether gradually or suddenly formed, gives us the next step, certain chemical combinations within certain environments probably acquiring the peculiar properties of "protoplasm." The differentiation of the nervous system from the main protoplasmic mass is then produced by organic evolution. Finally, a very small portion of the

nervous system, mainly the frontal lobes of the brain, becomes directly associated with the manifestation of self-conscious mind, of which the essential characteristic, as emphasised earlier, is its capacity for displaying universal relations as being mental. In each of these cases the "material" not used for progress gets a new meaning for us by contrast with that which, thus differentiated and totalised, displays the new relation. "Inorganic," as such, means nothing till there is the "organic," though there was, of course, some material in existence possessing qualities altogether unconnected with the organic aspect.

We have a right to suggest that the possible differentiation of matter from ether, and of conscious mind from the nervous mass, differ essentially for our apprehension from the other examples suggested. For in each case the new type intrinsically displays a universal relation with the rest of the existing universe, matter by gravitation affecting all matter, and also in other ways necessarily initiating processes in ether. If we consider the question, it may also be remarked that, from the point of view of ether, so to speak, the formation of matter afforded an example of "transcending." The production of finite entities from a substance, necessarily regarded by us as infinite, differs essentially from the evolution of a solar system from a nebula. The latter is a re-arrangement of details; the former is a transformation of existence, at least, for our apprehension. We have therefore one great precedent for the formation of a new entity by the totalisation or making finite of a previous type. For the infinite by its very name is that which is not made a finite *whole*. We do not know whether matter arose from ether gradually. Mind was arising from matter throughout the æons of organic evolution, and finally "exists" now in direct consciousness of the self. Matter, however, according to Sir Oliver Lodge's experiments, exists in some sense disconnected from

ether. "Disconnection in space" is a description in material terms, and thus matter on its own ground, as matter, exists separately with reference to its relation with the ether, which produced it. We have, however, to remember that ether, qualified by an "unborn" matter, is not the same as ether after its birth. This is obvious from the fact that men of science can now describe some ethereal processes as being causally originated by matter, of which ether was probably incapable before the birth of matter. It is obviously not upon the original pre-material ether that matter takes effect. Similarly, mind, while apprehending itself as though separate, cannot, save through a body, take effect upon the "inorganic" matter, which historically precedes the differentiation of mind from matter, and in the chapter on psychophysical interaction we have suggested the mode of its present action on organic matter.

The self-conscious totalisation recognises itself as incomplete.

Observed as the conscious stream in introspection, it is certainly without effect upon matter, except that by the appreciation of details, contained therein, it indirectly occasions action affecting physical objects, in order to realise its ideas. It is evident, therefore, that the final question, in what sense the new totalisation, mind, might exist in a different relation to matter, as at present observed in contrast with mind, depends upon its capacity for assuming a certain character after further differentiation by death. That mind, as we now apprehend it, is not wholly differentiated at present, is merely another way of expressing the fact that we do not spend our whole lives even in implicit introspection, yet in no other way know ourselves.

We have insisted that the existence of mind as actual, and not merely active, depends upon its realisation of itself as mind. But at the same time we know that the conscious stream in introspection is a mere fragment and shadow of all that "mind" ultimately involves. It is proved to be such by our total incompetence, as a rule, to trace from immediate intuitive intro-

spection the causative process in our own minds. Yet this is productive of the flotsam and jetsam which we know will soon be thrown up into consciousness. Existence and activity can never be inferred from each other by man, and hence men of science rely wholly on experiment and observation. Yet Plato's conception of the deduction of everything from his "Idea of the Good" would be valid from the Absolute's point of view, to whom activity and existence would not be stereotyped as separate, but would be transcended. Our nearest approximation to such instant intuition of existence and activity transcended is exhibited by our apprehension of mind in "character." When we say that a man's character is formed, as though character were an *existence*, we mean that we know how he will *act* under given conditions. Modern men of science rarely appreciate the sublimity of Plato's error, or understand the profound truth which it embodies. He fails, from man's point of view, through rising successfully in outline to that of the Absolute.

The full realisation of itself by mind, if ever possible, would therefore involve much more than the mere stream of introspection. There remains nothing save matter and ether, "transformed" because no longer apprehended by our sensuous activity, which, as pointed out in the chapter on the "Principle of Life," was developed in a very partial manner in accordance with the immediate needs of the struggle for existence. The full realisation of itself by mind would mean its realisation of itself as totalising some different combination in the ethereal-material system. The latter would no longer be apprehended under the present "sensuous forms" of mental activity (Chapter II.), and hence no longer be "matter," as we now know it. Similarly, pre-mental matter could not have been matter, as we now know it. It will be observed how completely we are carrying on in spirit that trend of thought by which psychological science now universally insists on substituting

the "psychophysical organism" for "mind" and "matter." Matter as contrasted with mind (taken as the stream of introspection, imperfectly understood through its own "sensuous forms") is not matter fully realised, a truth which men of science continually confirm by introducing various "immaterial forces" to explain the changes of observed matter. We could only begin the process of realising ourselves by objectifying a mere part of our whole being, as mind, in the avowedly imperfect abstraction of the conscious stream in introspection. This is all we can actually know of the mentality of the universe, whether it extend further or not in other forms, because the remainder of it could not be *represented* to us under the guise which we have stereotyped to ourselves as mental. In fact, however, our minds may be simply cosmic mentality, caught at the earliest stage in evolution at which any degree of self-consciousness becomes possible in a being who is merely a part of the universe. By the prevalence of our "sensuous forms" we also apprehend materiality in an equally incomplete manner. We may quote Mr. Balfour's remark in his address to the British Association, August 1904, "The more completely science lays stress upon the accidental origin of our minds the more doubt it throws upon the ultimate validity of its own working conceptions."

Discussion of the direct evidence adduced by Myers and the inadequate explanation of the facts.

Myers's volume on the survival of human personality contributed some important evidence, but the explanatory reasoning was somewhat vitiated by the treatment of the "sub-conscious self" as though it were some separate type of existence, somewhere away in "infinity." But there are two types of existence (the conscious and the material) which we can actually observe in direct intuition, one by psychological introspection, the other mainly by touch and sight. It is fatal to introduce a third type, the "sub-conscious," which, as separate, is wholly foreign to all intuition, and exists merely as a conceptual creation of the

intellect. No such error would be made by a metaphysician, who holds fast to facts, though he is so misunderstood as to have the opposite reputation. The sub-conscious has been well expressed as the neural *mechanised* background of consciousness. The problem of mind and matter could possibly be stated as the universe exhibiting one process, in which we describe substance, when already mechanised, as matter, but while being so treated, as having a mental aspect. For the physical world might be that which is already mechanised in the Absolute. Thus the sub-conscious self is not an entity somewhere away in the stars, but it is only postulated to explain the *full* working of mind, matter and ether including, and, in their ultimate reality, transcending the "ordinary" activities of our organisms, as is possibly already indicated in reported telepathy. As actually apprehended by us as entities on an avowedly imperfect principle, neither matter, ether, nor the casual fragment of mentality displayed by introspection can be apprehended in their full reality. But their activities must proceed on their courses and are studied by scientific men. Hence upon observing their effects we falsely postulate wholly unobserved types of existence to explain them. The "sub-conscious" is needed to express the fact that mere "inorganic" matter, as known to the physicist, and the conscious stream observed in introspection do not together suffice to cover all the facts. Under such circumstances the true scientific method is not to assume hastily an unknown type of existence, but to begin by examining the known types in all their bearings. An examination, such as that of the "forms" of the mind in the second chapter, may lead to the realisation that when we talk of mind and matter for ordinary purposes, we are tacitly assuming that their nature is confined to the exhibition of their more obvious phenomena, while we omit certain unexplained activities. The recent investigations in

hypnotism and kindred subjects have afforded a continuous illustration of the modern scientific success in finding highly interesting "abnormal" powers of our own minds where men used to assume devils, witchcraft, second sight, and the like.

The problem
of immortality
in connection
with meta-
physical
terminology.

To the question : Can mind exist apart from matter ? we must reply that this is as highly improbable as that matter can exist apart from energy, a point urged by Haeckel. The real question should be : Can we from our point of view more completely realise ourselves as mental in a higher degree, that is, together with all that is now involved in the "sub-conscious" (by the necessary dropping of the "sensuous forms" at death) and from the cosmic standpoint, by some different totalising of finite wholes in the world now known to us as matter and ether ? The latter would no longer be taken, respectively, as intrinsically plural and infinite. These properties are due to the imperfection of our senses, as shown in the former chapters, and are contradicted by the tendencies exhibited in such theories as that of gravitation or the necessity of afferent to efferent activity in the organism. We can only say that in the ideal instincts mind already exhibits a universal relation of its own in our present life. The fact that on this view the same "material" might serve many selves is no objection. For the same brain serves more than one self in our present life in cases of double personality. For different beings the material would be active in a different manner. Even the so-called "physical" qualities, such as athletic nerve, would be *represented*, for on reflection they may be seen to be as "psychical" as moral courage, but only less comprehensive in their relations, just as the distinction of "mental" and "physical" pain was shown earlier to be inaccurately expressed. The vague popular conception of a "spiritual body" represents the undoubted truth, that all qualities of the organism as a whole must be represented, if there is any survival at all.

The actual disappearance of consciousness before our eyes is the fact which dismays the observer at the approach of death. We must, however, reflect that the "disappearance of consciousness" strictly means the disappearance of all signs of consciousness, namely, the moving of particular muscles of the face or of the throat (in the case of voice). If the dying person as a totalising unit is experiencing any such transformation as we have suggested, there is no conceivable means by which he could indicate his experiences to the living. Consciousness, as pointed out in the chapter on the Formation of Mind, is a greatly narrowed product of evolution suited to the crises of natural selection, and intrinsically connected with the working of a few specialised muscles. It is now believed that thoughts and feelings apart from muscular activities are impossible. The presence or absence of a vaso-motor mechanism in the brain is an important question in psychophysics.

We have hitherto avoided resting our arguments on the evidences of telepathy, which, if valid and logically treated, greatly strengthen our views, though it is not claimed that a proof of immortality is being presented. For these phenomena are not as yet recognised by cautious men. Since the accumulation of observations by Myers, it must be admitted that they seem not unlikely to take their place in the scientific line, like hypnotism, the absurdities having been, as usual, not in the facts, but in the tacit explanation of them. Similarly, the illogical explanations of "Spiritualism" are possibly more delusive than its frauds. But if it be really true that a man in England can occasionally experience that which is happening to another in New Zealand, the sooner we widen our conception of the present meaning and future possibilities of "mind" the better for our psychology. At first sight it would appear that ordinary inorganic matter and ether, in connection with such an occurrence, are serving mind directly, as though they were neural matter. Otherwise mind would be acting

in complete independence of the physical world (which metaphysically would be an identical process). We know that neither of these processes is scientifically possible either for matter or mind, taken strictly as such; if, therefore, there is any truth in this evidence of telepathy, it more reasonably suggests that the *mentality and materiality of the universe is being totalised on some different scale*, though still under the form of our own personalities. And being thus differently totalised or organised, two portions of it might become capable of apprehending each other by the mediation of forms of energy other than the recognised ethereal or atmospheric radiations. To the sightless organisms the sudden or gradual evolution of optic apparatus would in a similar manner give the power of apprehending by means of forces hitherto inconceivable to them. Hence the existence of our personalities after death is no absurdity, always provided that we do not tacitly think of that which is to be totalised as *merely* some part of the ethereal-material system, as now apprehended by us, or of that which is to totalise, as the "mind," which is introspectively observed at present in an objective series of mental events.

Final view of mind and its possibilities. Is it capable of a higher degree of self-realisation? which from the cosmic point of view would mean the formation of a wider totalisation. Illustration from a cyclonic eddy.

We may now present our final statement as to some possibilities involved in the nature of our psychophysical organisms, the conclusions being based not upon the evidence derived merely from a single science or group of sciences, but upon an analysis and comparison of every type of fact, both as sensuously perceived and as emotionally experienced.

When we observe a small cyclonic eddy sweeping along a road, it is clear that the column of dust and leaves and atmospheric molecules which compose it is continually changing, so that after some lapse of time the eddy may not contain a single material particle which was present in it a few minutes previously. Yet its form often remains the same, and hence we do not hesitate to call it the same cyclonic eddy. Now, if we

rid ourselves *entirely* of the effects of the lingering sub-conscious ideas of spirit or mind, as being a separate essence (ideas meeting with no support either from biological and psychological observations or from metaphysical reasoning), it will become apparent that the immortality of the human personality is not only compatible with a view of our psychophysical organisms, which is at first sight completely materialistic, but would merely be an illustration of a principle hitherto continuously operative in the universe. The original disposition of cosmic forces has resulted in the frequent formation or totalisation of cosmic substance into new systems or units, such as the atom, the molecule, and perhaps the cells. We are, however, informed by the author of a biological work, still in preparation, that the cell may prove not to be an ultimate vital unit, but a specialised and transient formation in a fibrous continuum. In that case the next unit, for metaphysical purposes, would be the organism as a whole. With each new totalisation, new activities and new relations towards the environment, such as the vital or teleological, are at once displayed. In the case of protoplasm, *identity* is maintained by continuous *change* on a fixed principle; Tyndall in his short essay on vitality describes it as a "wave," for it depends as much upon the particular balance of forces involved as upon the actual materials presented to vision. Conscious manifestations accompany particular totalised *activities* of certain brain-complexes, taken as a whole, and it is decidedly inaccurate to describe them merely as dependent on a particular *formation* of molecules in the brain. Dr. M'Dougall has lately laid stress on the reasons for preferring the correlation of mental phenomena with cerebral changes in form and activities, which he describes as flow of neurin, rather than with the actual material composition of the brain. We have already pointed out that the stream of consciousness observed in introspection should be regarded as the "energy"

aspect of our being and of the universe inadequately objectified by our own imperfect apprehension. But we must instantly add, to avoid Haeckel's error, that this energy is not *merely* the energy of the physicist, which is purely mechanical, only because, for his special purposes, he must stereotype one aspect of the universe as a separate series, omitting consideration of cerebral energy. The *mere* "energy" of the physicist ultimately contradicts itself in the infinity of ether, and is also perhaps historically continuous with those very biological and psychological manifestations, in contrast with which it is sometimes defined. Mind is not rightly described as a form of energy in the physicist's sense, because we have reason to believe that physical energy itself, equally with mind in introspection, is an imperfectly apprehended manifestation of an activity which transcends both mind and energy, but of which mind, being totalised on a larger or more complex scale, is more nearly representative than energy. Now in the case of the cyclonic eddy the energy is handed on by merely atomic activities, but the form of activities-as-a-whole of the brain, which, as we have pointed out, is the correlate aspect of mind, might be handed on gradually to new totalisations of the substance of the universe (as evidence of telepathy would confirm). This might be simply due to the natural interaction of the cosmic forces, which have always hitherto resulted in the successive formation of new and larger totalisations. This process *we* should experience, as "realising ourselves," more truly and thoroughly than under present conditions, for we should be approximating more nearly to the Absolute, which is our ultimate reality. Our view may be put thus : all evidence tends to show that the organism is one. Yet we have the clear distinction of body and mind giving rise to different sciences, physiology and psychology. The solution seems to lie in the inevitable inadequacy due to our evolutionary and limited point of view, for which certain aspects of the universe

must become apparent before others, and hence all the possible ground of our apprehension is prematurely occupied. Psychology is barely fifty years old, but already is becoming psychophysics. We stated earlier that mind *is* matter in certain combinations transcended. It would perhaps be more accurate to say that in proportion as the universe is apprehended from a more comprehensive standpoint, it displays what is to us the mental aspect more plainly.

It is absolutely essential to our view that "mind" and "body" can never be separate before or after death, and we have lately used the term "substance" of the universe to avoid the tacit presuppositions which must cling to the term "matter." Tyndall also laid stress on the survival of our memories throughout the complete shifting of brain molecules, indicating that the former depended on the type of activity, and not on the material. Should there be any truth underlying the persistent tales of apparitions, the separation of mind from matter would not thus be proved, for it is by no means logically necessary that the objects actually seen should be themselves the realities. They might be indirectly produced by realities, as an image in a mirror is not an actual face, but could not appear to us save through the presence of the latter in the vicinity. Most intelligent men are repelled from a searching investigation into these tales by the apparent folly and absurdity of the actions of the "ghosts," as actually reported. This point of view, taken by itself, does not, however, seem valid, for we must remember that it is possible, assuming that there is some underlying truth, that we may only observe, in part, the activities in question. If a man were running to catch a train, and we could only see his legs in alternate motion, his actions would seem singularly senseless, unless we understood from other experiences the part played by the legs in the motion of the whole body. It may also be observed that in cases of dreams, suc-

cessfully forecasting the future in detail, which seem to be remarkably authenticated in some cases, our view of a wider totalisation, which would necessarily be *temporal* as well as spatial, would be adequate to explanation. From the Absolute's point of view, which is that of complete totalisation, the future, taken by itself, would not exist at all.

Comparison
with Greek
metaphysics
and modern
transcendental
idealism.

The Greek metaphysics had the idea of mind and matter, as *εἶδος*, form, and *ἕλη*, matter, and this conception only needs as a supplement of equal importance the truth, apparent in evolutionary science, that the form is ever progressive and resultant from interaction with the environmental forces, with which it is also, in its physical or spatial aspect, continuous. Nor is this view in collision with the modern idealistic metaphysics, which has shown that mind itself determines the form under which the universe is apprehended by us. The cyclonic eddy is not totalised as a higher unit, in the same sense as that in which the brain activities are transcended in mind, namely, so as to exhibit to introspection a new aspect of existence, yet the eddy partly determines the shape of the surrounding atmosphere by its own special formation; similarly, the form under which the universe appears to us has been determined by the effects on our minds of the fortuitous exigencies of the long struggle to survive under the special conditions of a particular planet. We often hear the vague phrase "thought-waves" compared with various electrical activities. Strictly on our view the *totalised* activities of our brains may set in motion larger energies in the universe whose effects upon each of us we should inadequately apprehend in others as thoughts and feelings. Thus we avoid the absurd confusion of thought involved in the popular phrase "thought-waves."

We may perhaps be more explicit on the subject of the "substance," which might thus after death assume on a different scale that special form and those activities which are the correlate or converse aspect of that which

is now objectified to ourselves in introspection as our personalities. Certainly this substance would not consist of the familiar objects of our present apprehension. We must not think of ourselves as possibly about to totalise after death glaciers, pine-trees, or any other combination of objects, which may be grouped in any of the scenes of our daily vision. For these objects owe their particular appearance, as such, and consequently the form of their activities also, to the limitations of our present senses. The substance which we require would be the whole or portions of the universe apprehended at least in some degree of greater approximation to their ultimate reality. Such totalised portions need not necessarily be *larger*. It is after all a very small but marvellously complex part of the nervous system which is concomitant with consciousness at present. This higher totalisation and these totalised activities, though not apprehensible to our senses, would be no more incompatible with the validity of our present laws of nature (as exhibited in the atomic activities of physics and chemistry) than the motion of a man round the mast of a ship is necessarily affected by the motion of the ship as a whole. We are well aware how instinctively the man of science recoils from the connection of "inorganic" matter (however altered in meaning) with mind, which he associates with the neural complexes alone. Though attained by both the ancient and the modern metaphysics, that ultimate reality, which thus admits of the future existence of mind and matter under different forms and with different modes of interconnection, at first seems to the man of science to challenge the ordinary conception of fact. Yet there is no real antagonism, for the mystery of life and mind in an organism stands as a continual witness to the possibility of co-operation, without apparent interference, of the activities of an entity as a whole and of its parts. Again, the clear blue sky over our heads is, to the earnest thinker, an eternal and ever-present protest

against the competence of ordinary "fact" to pose as ultimate reality. Self-contradictory, both as finite and infinite, the sky rejects the categories which our terrestrial standards accept. But athletics and business and empire-making fix the "Plain Man's" conception of fact, and all else is vaguely dismissed as mere theory, till that day, of which we can at least say this much for certain, that the particular sensuous forms of mind's activity must vanish for ever.

Illustration
from physical
beauty.

We may illustrate our conception by considering such a quality as physical beauty under future conditions. Here is a valuable gift, in few or no respects due to conscious effort. It simply results from the moulding influence, in sum total, of the particular form of *psychophysical* energy, which really *is* any human being, but only part of which can be objectified by its owner as conscious mind, and hence can be regarded as conferring a claim to moral respect. If there is any survival at all, the same "mould" of cosmic force which shaped the present physical organism in a beautiful form would doubtless still be at work in any other totalisation, or otherwise we should not be the same persons. It would produce a quality which, though not identical, we should then recognise as corresponding to the former physical beauty. We may note, however, that it would scarcely again become the cause of bitter suffering and sense of injustice in the feminine world. At present we are quite accustomed to see the fruits of years of conscious effort and patience swept away in a moment by the presence of a mere "natural" quality. This, like money, is often bestowed entirely by circumstances which we should call relatively external. But those "mental" characteristics, whose superiority we already admit but expect to see disregarded, would be in a far more favourable position relatively in a world where the development of telepathy made their presence as continuously obvious as is now that of physical beauty alone.

We may recapitulate the nature of the views Recapitulation. expressed in the last two chapters. We have not attempted to prove either the "existence of God" or the validity of the notions concerning the immortality of the human personality. But it is an age when countless views, absolutely contrary to ascertained fact, are firmly held on these subjects, some supported by ancient repute, others by the fashionable attractions of novel quackery, so that true men of science generally prefer to avoid the question altogether. It seemed perhaps desirable to inquire whether there is any means by which the human instincts, which have issued in this chaos of ignorant opinions, can be offered a genuine *possibility* of satisfaction. We believe after this investigation that the universe does not, at least, exclude either a real God or human immortality, though we are convinced that the principle on which such a consummation might be realised in the future must be far removed from popular notions on the subject. In the last chapter we attempted to show that the very fact that the universe has actually produced beings who can regard themselves as persons makes it inevitable that they will instinctively regard the remainder as personal (that is, as directed by a personal God). This feeling would be in proportion as they realise themselves vigorously, unless affected by special intellectual considerations perhaps concomitant with particular stages of knowledge. And *for them* a full realisation may not be impossible in the future. On the subject of this chapter it may be that some decisive direct evidence, such as is possibly given us in Myers's account of his psychical researches, may be forthcoming, but in this case there is certainly a need of a thoroughly critical explanation of the observed facts. The view of the present nature of mind, which we have illustrated by a cyclonic eddy, does not stand in need of the validity of these telepathic phenomena, but, should they be confirmed, it can at once be applied

on a larger scale. The man in England who is suddenly aware of his friend's sufferings in New Zealand may owe this experience, not to the services of the intervening earth, as visually apprehended, but to an incipient totalisation of his own personality on a different scale in ultimate reality, by the widening of the basis of his existence, taken as separate from the Absolute in self-consciousness. We do not mean by this statement that in such a case the man's personality (or the form of energy by which he recognises himself) would necessarily be totalising the whole intervening earth, even though the latter were organised in ultimate reality on a different scale from that observed by our vision. When we behold Sirius, distant a billion miles, we need not ourselves totalise the intervening ether in order to apprehend it. But in such a telepathic instance as we have mentioned, if the facts are sound, we believe it to be reasonable to maintain that the man's personality was momentarily totalising some organised portion of the cosmos (to the apprehension of which our senses are inadequate), which was such as to respond to wider totalised activities than those which are known to the physicist as ethereal or atmospheric vibrations. If it be asked what evidence there is for supposing that such wider totalisations and totalised activities actually exist, we reply that there is an immense mass of *doubtful* evidence, which, if sound, we should explain on this principle, but which is of a type peculiarly difficult to prove or disprove when examined critically, and that for the present, therefore, the matter can be carried no further. But we hold that the present relation of mind to its own cerebral activities and to the physicist's law of the conservation of energy affords an illustration of the possibility of the co-existence of atomic and totalised activities. A being small enough to swim up the blood-vessels of our brains could not have the faintest conception that the atomic activities around him, when totalised, *are* mind. In our chapter on psychophysical interaction we have

suggested in what sense the two types of activity may affect each other.

It now remains to consider certain possible objections, and especially the question of the "point" in evolution at which immortality might become possible, though the answer is probably already apparent. It may be thought that if such wider cosmic totalisation or (from mind's point of view) deeper self-realisation were about to occur, a *gradual* transformation would be observed. It must, however, be remembered that if our view be correct, the idealistic dreams, trances, and visions, to which humanity from time to time bears witness, would actually be examples of the incipient change. Also the ordinary degree of self-realisation, which is adapted to physical self-preservation, would be strongly stereotyped by mind, and regarded as the only solid reality on the principles discussed in our second chapter. The disappearance of normal consciousness at death is rarely sudden; usually it flickers at different levels of clearness. It will be noticed that human immortality on our present principles does not also involve pre-existence, as has always logically been the case with any such view since Plato's discussion of the subject. This difference is directly due to our acceptance of an evolutionary view as applicable even to the very meaning of existence, save that of the Absolute. For us existence for itself of a being who is not the whole intrinsically appears when cosmic organisation or evolution becomes sufficiently complex.

It is sometimes objected that our desire for a future existence only takes account of a man in his prime, and that there is no valid reason for omitting consideration of his decay in old age. This objection would certainly apply to the temporal series of consciousness, but many phenomena, such as those of hypnotism, indicate that we must not regard the vigour of conscious activities as expressive of all the possible sub-conscious content. It is also important to notice that exceptionally vigorous

The objection that we arbitrarily imagine our existence prolonged as it is in our youthful vigour.

minds retain their powers despite the inroads of old age. Herbert Spencer was an example of this fact, and Sophocles wrote the *Oedipus Coloneus* at the age of ninety. It seems likely that there is a double process at work, the comparative failure of the temporary mechanical and atomic aspect of "mental" activity being sometimes counterbalanced by extreme development of the teleological self-realisation. We know that by vividly realising our own weaknesses of character we are most likely to correct them. The capacity for forming such ideal combinations, by means of which we concentrate energy on that which is essential, often counteracts the insufficiency of natural powers. An intellectual man is often weak by nature, but he can realise the dangers threatening him, and takes special precautions against them. Similarly, Kant held that we were free just because we could form the idea of freedom.

Character as
typical of the
gradual present
formation of
the new
totalisation.

In this connection it is also worth noticing that the "formation of character" means nothing else than the differentiation of a portion of the mental content under teleological headings, as opposed to the fortuitous impressions caused by mere temporal and spatial juxtaposition of events upon the nervous system. There cannot be a form without a content, and the teleological form could not have come into existence except through the use and discrimination of mechanically produced mental events. The form under which our possible wider totalisation of mind in the universe was afterwards to be achieved would be fixed by the degree to which the teleological self-realisation was differentiated in our present life. For it might not afterwards have, so to speak, the same leverage for its efforts. It is not suggested that mind would be wholly "out of time," but there seems to be good reason for denying that the partial decay of old age is a sufficient objection to immortality. While still only totalising the mechanical brain-processes, which are in the main

its present basis, the activity, though not the purpose, of the teleological being must be hampered by their failure.

If it be plainly asked : When did the ape become immortal ? we can now answer on the same principle as Darwin : When did the infant become self-conscious ? But we may add that as the latter certainly attains this stage, there is no reason why a higher unit or totalisation in the universe, which to mind is a higher degree of self-realisation, should not in similar manner become gradually capable of being totalised by mind after death, for death is usually as gradual as the processes leading to the self-conscious flash of the child. There is so much that is implicit in the mere word "when." We may also remember that there is evidence in favour of the existence of "elemental beings" adduced by those engaged in psychical research, who also report that there seems to be a sounder basis for tales dealing with the appearance of low types of spiritual beings than of the higher specimens of former humanity, whom we might perhaps suppose to be wholly beyond our ken.

The question of the point in evolution at which immortality becomes possible.

It will be seen that we have earlier in this work utilised the writings of scientific men on this subject, such as the *Unseen Universe*, when we were concerned with the destiny of the physicist's subject-matter, ether and material atoms. We must, however, remind both the physicist and the biologist that the problem of immortality must be mainly the problem of the destiny of mind, and hence the facts of psychology are perhaps of paramount importance. The frequent vague use of the word "mind" contrasts strongly with their strictly accurate accounts of the physical entities, and it would almost seem that they sometimes forget that the psychologist finds it necessary to distinguish between the mass of psychical phenomena, which form the popular conception of "soul," as being due to utterly divergent causes. At the same time it is true that it is often almost impossible to confine some scientific terms

to their strictly accurate meaning in various metaphysical contexts. Our own use of the terms "force" and "energy," occurring under circumstances which would not be paralleled in a work on physics, has been unavoidably dubious at times, but it should suffice if the meaning was clear.

It may, perhaps, be thought that in our treatment of the ideal instincts we have not, after all, mentioned that which is actually regarded with special respect by the majority of men. Luther, Beethoven, or Newton are not the prime ideals of average mankind, but the chiefs of the "practical" life, the great statesmen, or unhappily even the great generals or merchants. The thinker deals with the universe, the statesman with men, and especially with the immediate demands of those instincts and passions which the thinker does not find in Nature, and which he has merely to understand in humanity. It is not, therefore, likely that either his work or its indirect results can appeal to the masses at all. But our apparent neglect of the political ideal is only due to its necessarily mixed character. We do not doubt that our statesmen are mainly animated by the ideal desire to benefit their country. But their position continually forces them to pursue for a time objects far from ideal, for some considerable tenure of power is absolutely necessary if lasting good is to be done. In consequence, the statesman will not provide so clear an illustration for our particular purposes. Ambition also must almost unavoidably play a great part in the career which gives power, and this passion is itself neither good nor bad, but simply indicative of the strong consciousness of a human individuality. On the other hand, there is no intrinsic reason why the thinker or the artist should not follow his ideal without interruption, and therefore he provides us with the best material for our illustrations.

Conclusion.

In the minds of those whose noble profession deals continually with the loathsome side of human

life, the fearful wreck of mind in madness, or the production of imbecile monsters, it is scarcely possible for the expectation of immortality to survive. Idealism, they say, only takes account of mind in its splendour. We have attempted to deal justly with these revolting facts. Our criterion for immortality has been the capacity for the present degree of self-realisation as a mind, capable of universal or ideal instincts, whether actually rendered explicit or otherwise. The position of these horrors is in principle the same as that of the animals approximating to primeval man. Their capacity for a higher self-realisation might gradually come to suffice for a connection with a wider totalisation in the cosmos after death. The distortions of mind due to physical malformations of the brain are really in the same category as the ordinary mental content, so far as produced by mere juxtaposition of events in space and time, and not by conscious purpose. It requires indeed a powerful intellect to live among such disgusting spectacles, and yet to cast off the *undue* impression which their repetition forces on the mind. Yet we are but obeying our faith in reason when we admit that we must judge solely neither by our own special experiences nor by those of others; the saint and the genius must be weighed with the idiot and the abortion, that from the Nature of science and the instincts of man just conclusions may be predicated of the universe as a whole.

APPENDIX ON HAECKEL

WE have deferred the consideration of Haeckel's philosophy from the first chapter to an appendix, since it affords a suitable opportunity for a more general discussion, which may be of value at the present time. It is not quite satisfactory in our view that there should be no mention in expert work of a name so prominent in the public notice, however mistaken the popular estimate. We are far from despising Haeckel's views, the deficiencies of which are due rather to disconnection from previous work than to intellectual incompetence. We live in an age when there is increasing pressure of economic competition, and development of new and immediately practical branches of scientific knowledge. It is hence impossible for so large a relative proportion of the intellectual men of the world to obtain a real grasp of metaphysics or general philosophy. We therefore are convinced that a philosophy written in concrete language and availing itself of the researches of science would be of the greatest value, if successfully executed. Hence Haeckel's preface to the *Riddle of the Universe*, in which he deplores the "unnatural and fatal opposition between Science and Philosophy," roused great interest, especially when he remarked that though the pure empiricists do not see the wood for the trees, the metaphysicians are satisfied with the mere picture of the wood, and will not assimilate the hard-earned treasures of experimental research. Such language suggested that, unlike the average scientific writer, when he begins to philosophise, Haeckel was fully aware of the real cogency of the metaphysical criticisms upon so many hasty generalisations. Men of science whose reputations are based upon specialists' work are often at fault in the sphere in which pure reason must predominate. The fact that a general glance through Haeckel's volume revealed, on the whole, scientific details was far from displeasing to a thinker who was deliberately adopting a somewhat similar method in his own work. But after studying the chapters in detail, we are persuaded that if the unification of metaphysics

and science by the human mind is really possible, it is more likely to be achieved from the philosophical side than from the scientific. We shall attempt to indicate shortly in what respects Haeckel has failed to grasp the nature of the metaphysical point of view. The most obvious criticism should be directed against his apparent belief that metaphysics is not compatible with monism. Again and again he repeats that matter and energy, of which he regards mind as a form, are never separated, whereas the "spiritualistic" or "metaphysical" theories regard mind as a separate entity. In the chapter on Consciousness we find the most explicit statement of this underlying misconception of the metaphysical method. "However divergent the views as to the nature and origin of consciousness, they may be reduced to two fundamental theories, the transcendental or dualistic, and the physiological or monistic." Again, in the chapter on the Law of Substance, speaking of the two "cosmic theorems," the persistence of matter and the conservation of energy (which the radium experiments may after all modify), he remarks that their validity is contested by the "entire dualistic philosophy, vitalistic biology, and parallelistic psychology."

Now it may possibly be of some use to others, who may attempt a unification of science and philosophy from the scientific side, if two points are emphasised in this appendix. Metaphysics has long been monistic in tendency, though its interpretation of monism is not that of Haeckel. Secondly, psychophysical parallelism is only held as a working hypothesis, convenient for purely psychological purposes, and is not regarded as an ultimate explanation at all. Haeckel's idea of metaphysics is based upon a partial apprehension of the Kantian philosophy, but we have failed to find even a mention of Hegel, whose development of Kant eliminated those dualistic elements which formed the less enduring part of the work of the earlier philosopher.

Hegel, as is apparent from many a conversation, is the *bête noire* of science, whose students have no time to acquire a mastery over a type of thought which, in its external form, is so obscure and antagonistic to their own. They tend sometimes to rely on their numbers, practical achievements, and popularity with the masses of the "intellectual market-place," who naturally prefer such novel titbits as the pretty sparklings of the radium wonders. Yet even a modification of the law of the Conservation of Energy would not be so fundamental as the elucidation of the part played by mind itself in producing all these spectacles. But the austere sublimity of

pure thought, which can justify us in transforming the things of sense, will only fire a spiritual imagination, especially when associated with the dry command to begin by analysing our own ordinary conceptions and realising their vague and self-contradictory character, when applied outside the sphere of daily practical life. How often do we hear that hackneyed expression — “spinning philosophy out of our own consciousness and trying to obtain new knowledge by *à priori* methods”; yet there might be more truth in philosophy, even if it were really confined to such “spinning,” than in a summary of the sciences, which never inquires into the nature of the mind itself, which has made all these experiments and observations.

As soon as we see those phrases we know that no help can be forthcoming from that quarter towards the work of unifying science and philosophy. We have heard an eminent man of science say that Plato appears to him shallow and pretentious. Plato, indeed, had not the modesty of Darwin, but modesty, on the whole, comes with age, both of individual and race, and it has now become rather an exaggerated fetish in cultured England, hindering the realisation of the truth in many quarters. We can vouch that we once held a similar opinion of Plato, when for the first time we studied in a philosophical course the fifth, sixth, and seventh books of the Republic after continuous reading of science. In the present work the modern doctrines of evolution and natural selection have been applied to metaphysical problems almost *ad nauseam*, and this is surely the sincerest form of appreciation of Darwin. Natural selection, it seems now agreed, does not in itself explain the origin and variation of species, but it has evidently much to do with the forms which they assume, and it is to this aspect that we have confined ourselves. The very keynote of our contention has been that in the *particular* circumstances of the evolutionary origin of our minds, in the form in which we apprehend them, lies the solution of certain metaphysical difficulties. Comparison is odious, yet for us personally, from the purely intellectual standpoint, the achievements of Plato in relation to previous thought now seem greater than those of Darwin. For we do not study Plato and Hegel so much for their actual results, but for their point of view. The true philosopher would feel the phrase “metaphysical *theories*” to be rather absurd. For metaphysics is simply the attainment of a profounder and more comprehensive standpoint from which to view results already established.

An attempt may be made to bring this spirit or point of view into touch with the experimental details of modern science. What would Plato have said of atoms and electrons, of cells and nerve-ganglions? Such attempts are always liable to failure through insufficient acquaintance with the masses of special facts, but such error can be at least immediately and definitely corrected by critics, whereas we cannot be certain that a man of science has acquired the Platonic point of view save by observing his continual application of it to modern problems. Such an application might run roughly as follows:—For a mind connected with that particular portion of matter which we call our bodies, atoms and electrons are final reality, for they explain the activities apprehensible by such minds. But to a mind connected with some aggregate of matter of different size or construction, atoms and electrons would not be our *units* at all, but on the one side perhaps some tiny entity, which is, for us, now vaguely fused in “infinite ether,” or on the other, the unit might be as large as our present organisms. For with more perfect measuring contrivances, men of science find that they must postulate smaller and smaller explanatory units, molecule, next atom, then electron, since measuring contrivances are simply modes of developing the construction of our minds for sensuous purposes. Finally, for a mind, or anything like a mind (if it exists), which totalises the whole universe, what would be the unit? Analyse the conception of unit as it occurs in actual life, and we shall find that the term would have no meaning in such a connection. Thus, should we exist in some other connection after death, our scientific *units* at least would be changed. In this manner metaphysics differs from science; it bids us criticise that very mind which has made the scientific discoveries, and this appendix has as its main object the demonstration that philosophy does not *transcend*, but *analyses* the conditions of all experience. Indeed for our own part we have never been able to attach any definite meaning to the phrases “transcending experience” or “*purely* by reason,” which are often flung at metaphysicians. To deny that the mind can criticise itself is to assume that its nature is of a particular character. No one at least doubts that it can be conscious of itself. But we fully agree with men of science that the conditions of experience, which are to be analysed, should be stated in terms as accurate as possible through the assimilation of the results of scientific experiments, as well as by close concentration on the difficulty of making certain that the terms used exactly correspond with some observed reality.

From a metaphysical point of view, philosophers are not very likely to raise objections to the monistic position of Haeckel, though he seems to expect it, but the application of the Platonic point of view lately discussed is quite relevant to his interpretation of monism. For energy, like atoms, as actually apprehended by us, owes its special form to our being placed, as it were, on a special rung of the ladder, which ascends to the Absolute. We object to mind being described as a form of energy, though it is perhaps historically continuous with it, because we have reason to believe that both energy and mind are forms of a more comprehensive activity to which mind approximates more nearly than energy. Such appears to be the probability from an analysis of the relation of mind to the energy exhibited in its own cerebral activities. It is true that Dr. Riehl in his lately published *Zur Einführung in die Philosophie der Gegenwart*, a work directly aiming at promoting a better understanding between science and metaphysics, concludes that psychosis is no form of energy, since its activity would in this case draw upon or exhaust some other form of energy—a process not confirmed by observation. This line of reasoning, however, obviously does not apply to our view of psychosis, as the activity of the universe, apprehending itself in our particular form of consciousness, when *totalised* at a certain point in a certain manner. The full discussion of this subject is embodied in our chapter on Psychophysical Interaction. Again, we regard, not so much as a misstatement of fact but as a confusion of terms, Haeckel's expression, a soul-cell. Single cells have the potentiality of soul in this sense only, that after a certain combination with other similar cells, the *whole* mass has the capacity of presenting to our introspection that which we regard as mind. But both Haeckel and many others seem to attribute to metaphysicians a complete ignorance of modern psychology. We are exhorted to "talk no more of mind apart from Nature." Yet the Ego as a separate entity has vanished for a century from metaphysics. We are accused of confusing soul and consciousness, for "the unconscious" is the greater part of soul. This misconception of the metaphysical position results from a failure to appreciate its very accuracy. Such a term as soul is not admitted on account of its vagueness, for it would include "the unconscious" in a conception having itself no definite basis. Mind we observe by introspection, matter by vision, but "the unconscious" was only *conceived* because the meaning of matter as combined in living organisms had first been confined (arbitrarily) for philo-

sophical purposes, to the definition of the physicist. Yet so close is Haeckel himself to the metaphysical position of which he is unaware that we find in the chapter which ridicules the immortality of the soul the following statement: "The physiological argument shows that the human soul is not an independent, immaterial substance, but merely a *collective title for the sum-total of man's cerebral functions.*" Again, he places in italics: "I regard the *centralisation* of the nervous system to be a condition of consciousness." It is just on account of these facts, which, with great perspicuity, he selects as fundamental, that we have given reason for supposing that a future existence for man is possible. For we see them in a different perspective, after criticising the forms of the mind itself. Metaphysics at any rate has long abandoned the conception of the "soul" as an immaterial substance on the ground that it is self-contradictory. Yet we read in Haeckel's chapter on the Unity of Nature that modern metaphysics still regards "supernatural" forces as indispensable. The cruder errors of mediæval theology are repeatedly associated by him with the critical attitude of the modern metaphysician through an occasional resemblance in terminology.

Yet the work should be welcome to the thinker, for it gives confidence to him in many respects. For though apparently at the antipodes of the "abstract" metaphysical position, it actually coincides with the latter in *essence*, and differs only in *interpretation* in the eyes of any one who can apply the metaphysical principles to concrete scientific illustrations. It is no small thing that, from a purely scientific point of view, such an author should arrive at conclusions coinciding with our own, so far as the account of the actual construction of the universe as a whole is concerned. His evident ignorance of the present metaphysical position only makes the work more valuable from this standpoint.

We also hear much of "mere metaphysical speculation," a thoroughly erroneous impression being thus conveyed as to the nature of metaphysical reasoning. This term has completely changed its meaning, and in its modern sense does not apply at all to the strict logic of philosophy. Some members of the Church have at times helped to confirm this misunderstanding, yet the general effect of metaphysics, which so decisively refutes a naturalistic or mechanical view of the universe, could hardly be antagonistic to a liberal religious spirit.

There is also a widespread belief that philosophy consists of a number of differing "systems," which merely contradict each

other, and that in consequence none of its results are valid. When the subject is understood, however, it is apparent that the general agreement is much greater than the divergence. The appearance of disagreement is often due to the changed terminology which is necessitated by the differing points of view from which representatives of various ages and various races must approach the problems. Even when there has been real contradiction, and not merely the adducing of supplementary aspects of the truth, it has almost invariably occurred that the new line of thought has afterwards been developed by subsequent thinkers, until it ceased to be a direct contradiction of previous work. The shrine of philosophy might be likened to a central grove of towering trees, such as the Mark Ash wood, unique in the New Forest, towards which many avenues lead, and which is best appreciated when approached by different paths in turn. And if other avenues can be opened up by the application of scientific researches, the central problems of the universe may be further illuminated. But to such an end a coolness between philosophy and science is not conducive. Mr. M'Cabe in defending Haeckel complains that the metaphysicians, sarcastically termed those "intellectual aristocrats," wave aside with cultured disdain the work of scientific philosophers. We think that they have some excuse for this conduct. The list of works popularised by the Rationalist Press, though comprising many of great individual value, includes nothing which is at all representative of that point of view which from Plato to the present day has never lacked the devoted attention of the most powerful minds. But an undertaking which claims to be a campaign on behalf of reason seems frequently to degenerate into a crusade against religion. The metaphysician takes up an impartial attitude on this latter subject, regarding it as secondary to his main object, as is illustrated in our own treatment. Yet Haeckel, whose works are being so widely circulated in a cheap form by the Rationalist Press, refers to the "three fundamental postulates of metaphysics, God, freedom, immortality," a misconception which evidently arises from an imperfect understanding of the position of Kant's *Critique of Practical Reason* in his entire scheme of philosophy. The Rationalist Press, if it is desirous of justifying the assumption of such a title, should now add to its list some reduction of Kant and Hegel to a popular form. In this way, as far as is possible in a country in which, as a rule, a tacit apology is made for intellectual interests by the general tone of conversation, habits of truly

critical thinking might be inculcated in some degree. For if any one should wish to see what presumably pays, when submitted to the public, let him turn to a recent issue of one of our most popular journals, which, though designed to appeal to the masses, may also be found on the tables of the educated. At the meeting of the British Association a real effort had been made "to see life steadily and see it whole." A man equally pre-eminent in practical life, science, and metaphysics, had expressed the final upshot of his thought. Under the heading of "Speculative Babble," this address was openly jeered at in a leading article, practically on the ground that we should only be concerned with "that rare kind of ether, gold." Yet these journals, by attracting the masses and giving them wider interests, would do good if they were content to refrain from such gratuitous attacks. But our latter-day materialism does not merely disregard the spiritual and pursue its own divergent path. It has become self-conscious, and boldly asserts that it is superior, and has the right to pervade all the channels of life.

THE END

